

TMC | PULSE

NEWS OF THE TEXAS MEDICAL CENTER — VOL. 3 / NO. 11 — DECEMBER 2016

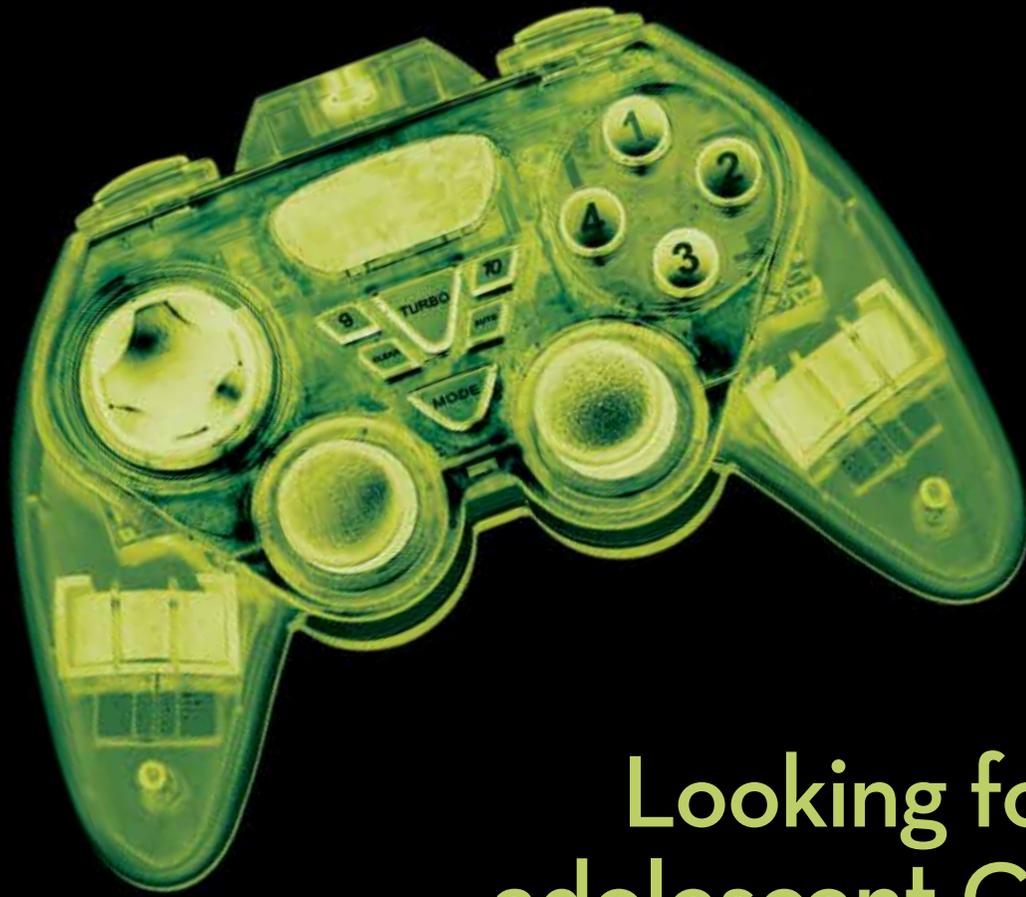
Mobile Medicine on the Border



PUT A BOW
ON IT, P. 4

REMEMBERING
DR. DENTON A. COOLEY, P. 10

HOLIDAYS IN THE
HOSPITAL, P. 36



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

I was halfway around the world, in China, when I heard the sad news that Dr. Denton A. Cooley had died at age 96.

The Texas Medical Center, the city of Houston, the state of Texas and people around the world mourn the passing of this pioneering heart surgeon who played a part in every major development of cardiovascular surgery. Dr. Cooley was born in Houston and he died in Houston. He helped make the city a hub of heart surgery and innovation, and his skill and ambition helped put the Texas Medical Center on the map.

I first met Dr. Cooley in 1984, at the American Association of Thoracic Surgeons annual meeting in New Orleans. I was a second year surgical resident, and I naively approached this icon of American surgery and told him of my dream to be a heart surgeon. He was gracious and encouraged me to work hard.

In the following decades, I got to know Dr. Cooley and was lucky enough to be visiting the TMC on his 76th birthday. He had just performed a minimally invasive coronary artery bypass operation with the heart beating without the support of the heart-lung machine. Dr. Cooley told me surgeons needed to remain curious, and should always strive to create new methods to improve the care of their patients.

Dr. Cooley performed more heart operations than any surgeon in history. It was my great fortune to have known him and learned from him, one of the best and brightest medical stars. The Texas Medical Center was blessed to have him in our midst. We should all be inspired to continue the work that became Dr. Cooley's life mission: To improve the health of the people of Houston, Texas, our nation and the world.

Robert C. Robbins

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Francisco Garza and his family at home in the Rio Grande Valley. Garza participates in a community health initiative sponsored by the UTHealth School of Public Health in Brownsville.



PUT A BOW ON IT

BY SHANLEY CHIEN

Thanks to a new wave of geek chic, bow ties are mainstays in the modern man's wardrobe. A bow tie is a statement piece that exudes whimsy while still maintaining professionalism and gravitas. That delicate balance is what compels many Texas Medical Center employees to forgo the traditional tie and join the party of ardent bow tie aficionados. An added benefit: bow ties prevent occupational hazards.

WILLIAM A. PHILLIPS, M.D. ◀

As a surgeon, William Phillips is extremely dexterous with his hands. It's a skill that comes in handy when he ties knots for sutures and bow ties.

Long ties posed a problem for Phillips early in his career.

During his residency, he was working an emergency room shift when a patient arrived with a broken hip she sustained during a violent fit induced by alcohol withdrawal.

"She became mad and combative and grabbed my necktie," Phillips said. "I began to choke."

After that, he wore nothing but bow ties.

"My wife buys shoes," Phillips said. "I buy bow ties."

William A. Phillips, M.D., is a pediatric orthopedic surgeon at Texas Children's Hospital.

PETER J. HOTEZ, M.D., PH.D. ▼

Peter Hotez's fondness for bow ties has earned him the nickname "Bono with a bow tie," a sobriquet the doctor has done nothing to disavow.

Hotez made the conversion from neckties to bow ties in the early 1990s, when he became a new faculty member at Yale University. Neckties were quite wide then, so he started wearing bow ties to augment his stature.

"I'm 5'3" and when I wore a necktie, all you saw was tie," Hotez explained.



He ventured into the Owl Shop, an old tobacco store next to the university, and asked the proprietor to teach him how to tie a bow tie.

When he ties his bow ties, Hotez aims for imperfection. A rakishly-tied bow tie proves that it's not a clip-on and that he tied it himself.

"I can actually do it without a mirror now," Hotez said.

Peter J. Hotez, M.D., Ph.D., is dean of the National School of Tropical Medicine at Baylor College of Medicine and president of the Sabin Vaccine Institute.

STANLEY H. APPEL, M.D. ▲

Decades ago, people used to dress a little more formally than they do now. Early on, Stanley Appel's uniform consisted of a button-down shirt and a long tie. It was a sharp look, but during a human anatomy course as a first-year medical student, he quickly learned it wasn't the best choice of neck wear.

"I leaned over the cadaver and it soaked up all the chemicals and liquids," Appel said. "I've not worn long ties since then."

Today, Appel's signature look is a colorful bow tie paired with his beloved cowboy boots. When he moved to Houston, he started wearing cowboy boots because they provided his flat feet with support.

Stanley H. Appel, M.D., is the Peggy & Gary Edwards Distinguished Endowed Chair of the Stanley H. Appel Department of Neurology and director of the Neurological Institute at Houston Methodist Hospital.

DARYL ISHAQ SHORTER, M.D. ▼

Daryl Shorter made the transition from the traditional long tie to the bow tie seven years ago.

"I've always appreciated bow ties, but never thought I had sartorial license to go there until recently ... when I decided to be more daring from a fashion standpoint," Shorter said.

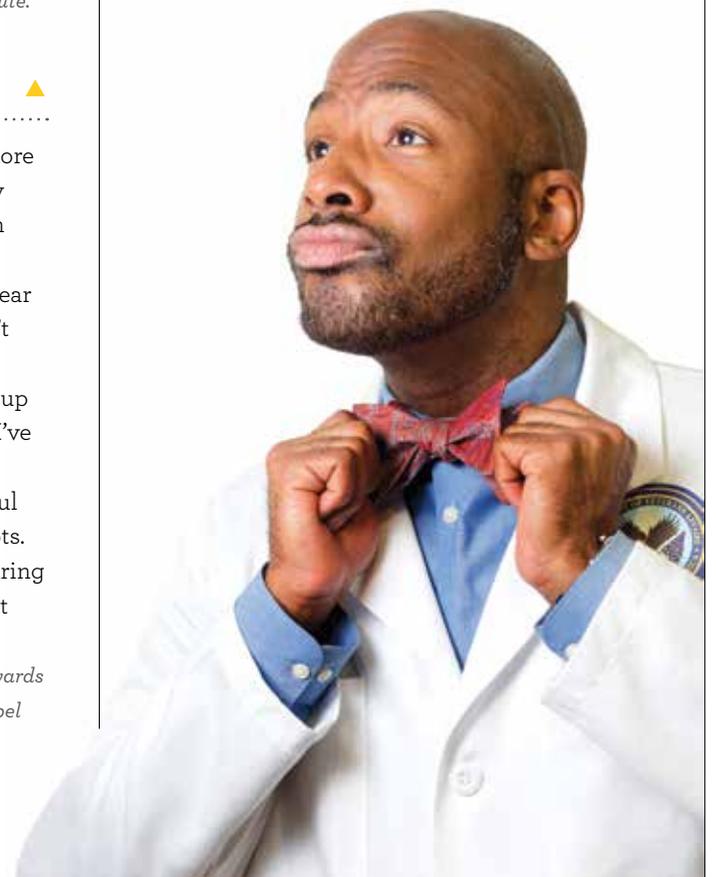
Once bow ties came back into fashion, Shorter took the plunge and never looked back.

"It started out with just one bow tie—a multi-colored black, silver, pink and gold striped bow tie," he said. "It's loud and funky, but I really love that tie. Once I figured out how to tie it, I was hooked."

As a researcher, Shorter doesn't wear a bow tie every day. But when he does, he prefers to complete the look.

"If you're going to bring the bow tie," he said, "then accompanying it with the appropriate pocket square is critical."

Daryl Ishaq Shorter, M.D., is an assistant professor of psychiatry research at Baylor College of Medicine.





HOLLAND MANON KAPLAN ▲

For Holland Manon Kaplan, bow ties are “a fun way to look more formal, but whimsical at the same time.”

While bow ties are traditionally a menswear accessory, she has the type of personality that can pull one off.

“I think bow tie-wearing people are very much fun-loving people,” Kaplan said. “If someone’s wearing a bow tie in a not-so-formal setting, you know they’re going to be fun and interesting. You just know.”

She favors the satin white bow tie her fiancée gave her for their one-year anniversary and looks forward to growing her collection with the addition of the one she’ll wear to her wedding in April.

Holland Manon Kaplan is a medical student at Baylor College of Medicine.

ARTHUR “TIM” GARSON, M.D. ▼

When Tim Garson was a student at Princeton University, he managed the Princeton Triangle Club, a touring musical comedy show. Every night, Garson had to wear a tuxedo to the show and to the after-party. Because he simply couldn’t fathom wearing a clip-on bow tie the whole night, he decided he needed to learn how to properly tie a bow tie.

As a fellow at Baylor College of Medicine, Garson delivered a presentation to an audience of 200, which included renowned heart surgeon Denton A. Cooley, M.D., Garson’s chief of pediatric cardiology Dan McNamara, M.D., and all of the surgical staff and fellows. Garson wore an unusual outfit: a shirt with large yellow and blue checks and a bow tie made of blue jeans with the word “Yes” emblazoned upon it. The get-up captured the attention of Drs. Cooley and McNamara, serving as a source of amusement during the presentation.

“Being a first-year, brand new fellow, I took my tie off, put it in an envelope and wrote Dr. Cooley, whom I had never met: ‘Dear Dr. Cooley, I understand you like my shirt and tie. I would have given you both, but the sleeves on the shirt would have been too short. Signed, Dr. Garson.’”

In return, Cooley gave Garson his long tie with a note: ‘Dear Tim, thanks so much for the tie. I’ve left you mine. It’s one of my favorites. Maybe if you wear it, it’ll make you look older.’

Years later, Garson had a pair of scrubs made into a bow tie for Cooley’s 60th birthday and attached a note to the gift that read: ‘Dear Dr. Cooley, maybe if you wear this, it’ll make you look younger.’

Arthur “Tim” Garson, M.D., is director of the Health Policy Institute at the Texas Medical Center.



“I spend a lot of my time giving people really bad news. It’s not so much that the bow tie can take away from the fact that I’ll tell someone they have metastatic cancer, but it cheers a lot of patients up.”

ERIC BERNICKER, M.D. ▲

A framed, hand-drawn painting of colorful bow ties hangs in Eric Bernicker’s office. A patient gave it to him as a token of her appreciation, as well as for his recognizable look.

“I’m sure I initially started doing it because I was pseudo-intellectual and eccentric, and I thought it was different. It just became a thing,” said Bernicker, a thoracic oncologist. “Now, if I don’t wear the bow ties, the patients get really pissed.”

His collection of multicolored, sometimes psychedelic bow ties reflects his personality: friendly and droll, yet intelligent and respectable.

Bernicker finds that a bow tie can offer levity to a solemn situation.

“I spend a lot of my time giving people really bad news,” Bernicker said. “It’s not so much that the bow tie can take away from the fact that I’ll tell someone they have metastatic cancer, but it cheers a lot of patients up.”

Eric Bernicker, M.D., is a thoracic oncologist at Houston Methodist Cancer Center.



“The bow tie was the obvious solution to good taste and infection control.”

GEORGE MALLORY, M.D.

George Mallory dates his love for bow ties back to the beginning of his pediatric internship in June 1974. He has amassed a trove of approximately 90 bow ties, and is unconcerned about their long association with geeky, bookwormish types.

“Pediatricians are probably not threatened by the possibility that someone might conclude that they’re nerds. There’s a little bit more self-acceptance here,” Mallory said. “We don’t really have to prove our masculinity, but there’s a very practical reason to wear a bow tie: I’ve never had my tie peed or pooped on in my career.”

He, along with many other physicians, abandoned long ties after a British study reported that long ties carried bacteria capable of causing disease.

“The bow tie was the obvious solution to good taste and infection control,” Mallory said.

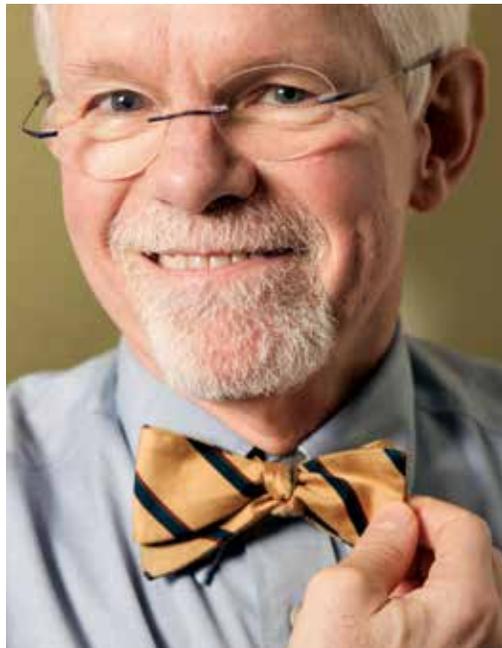
Mallory is very particular about a well-tied bow tie. Clip-ons are bush league and lazy and a beautifully imperfect, slightly tousled bow is key to show he’s the real deal.

“I abhor the idea of a pre-tied bow tie,” he said.

George Mallory, M.D., is a pediatric pulmonologist at Texas Children’s Hospital and founder of the TCH Lung Transplant Program.

BENJAMIN SMITH, M.D.

As an officer in the United States Air Force Medical Corps, Benjamin Smith wore the standard camouflage military uniform every day for



four years. Except for church and the occasional formal event, he rarely had a chance to accessorize with the one or two bow ties he owned. But it was a look he always liked.

“I’m pretty nerdy at baseline and I’ve tried to come up with a look that optimizes the professional quality and minimizes the nerdiness, so the bow tie seems to work reasonably well for me,” Smith said.

When he joined MD Anderson in 2010 as a breast radiation oncologist, his bow tie collection quickly expanded—due to function rather than fashion.

“I always lean over patients when examining them, so long ties are a real pain in the rear,” Smith said. “When I’m examining somebody, oftentimes they’ve had surgery, so they’re at

risk for infection. You don’t want your clothing being bathed in staph aureus or communicating staph aureus.”

Benjamin Smith, M.D., is an associate professor in the department of radiation oncology and research director of the breast radiation oncology section at The University of Texas MD Anderson Cancer Center.

MATTHEW GREIVES, M.D.

Matthew Greives’ office is decorated with plastic models of skulls and skull wall art. The interior design isn’t a tribute to the macabre, but rather a reminder of the work Greives does as a plastic surgeon specializing in craniofacial reconstruction.

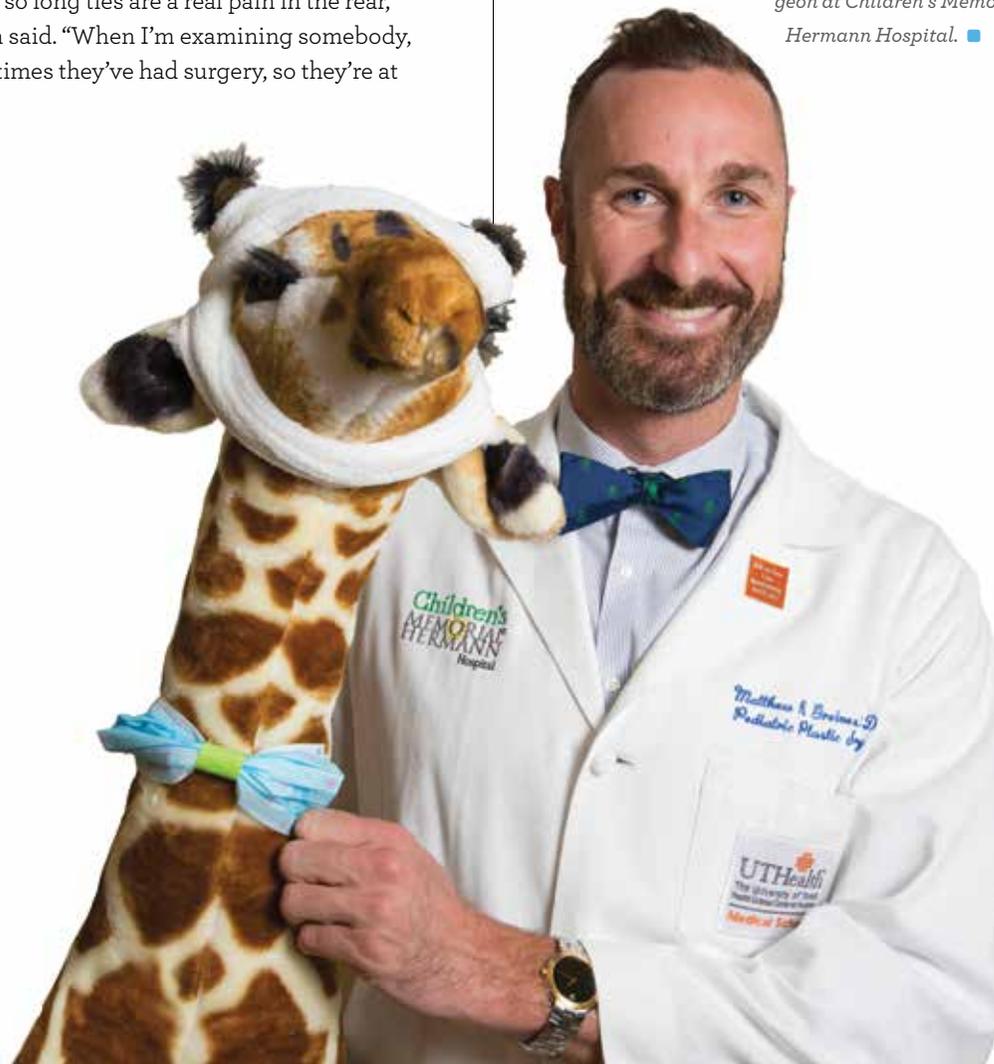
Patients and colleagues shower him with skull paraphernalia, including skull bow ties.

Greives was inspired to wear bow ties about a decade ago when he was still a medical student and learning from veteran craniofacial surgeons who often wore them.

“What sold me, particularly, was doing pediatrics,” he said. “Every time I would go in and see a cute little one-year-old or two-year-old, I’d try to get up close to do an exam in their mouth and they would grab my tie and yank it. You only have to be strangled by a two-year-old once or twice before you’re like, ‘I can’t wear this!’”

Because he works with children, Greives also has plenty of stuffed animals in his office. Some of them wear bow ties, too.

Matthew Greives, M.D., is a pediatric plastic surgeon at Children’s Memorial Hermann Hospital.



Closing In on a Zika Vaccine?

Among other things, mosquitoes must cooperate

BY CHRISTINE HALL

The Zika virus stepped onto the national stage a few years ago. Today, vaccine experts are hoping that a Zika vaccine can be developed faster than the typical 20-year time frame from laboratory to doctor's office.

Some 40 different groups are working on a Zika vaccine, said Alan Barrett, Ph.D., director of the Sealy Center for Vaccine Development at The University of Texas Medical Branch at Galveston (UTMB).

As director of the World Health Organization (WHO) Collaborating Center for Vaccine Research, Evaluation and Training for Emerging Infectious Diseases, Barrett is working with international vaccine experts to speed up the development of a safe and effective Zika vaccine.

"The public expects a vaccine to be 100 percent effective and 150 percent safe," he said.

Barrett has been part of the WHO's vaccine committees since the late 1990s, and UTMB became a WHO Collaborating Center for Vaccine Research in 2014. There are just seven such centers around the world, and only two in the United States: the other is at Johns Hopkins University in Baltimore, Maryland.

UTMB is no stranger to Zika. Within its vault of virus samples, the university has a strain of Zika from 1946. It is similar to the Zika strains from today, and from other samples around the world, Barrett said. This is good news. It means that different groups of researchers don't have to work on the same Zika strain to produce an effective vaccine.

"If you are making a 'killed' or inactivated vaccine, that makes it easy to try to raise an immune response because it doesn't matter the strain," Barrett said. "When making a 'live' vaccine, then the strain you would use would make a difference."

Barrett, along with researchers Stephen Thomas, M.D., then at the Walter Reed Army Institute of Research, and Maïna L'Azou and Nicholas Jackson, Ph.D., of Sanofi Pasteur in France, published a paper on the viability of fast-tracking a Zika vaccine in *The New England Journal of Medicine* this fall. They concluded that the time required to develop a safe vaccine "will be determined by prior experience with the selected technology, the continuation of outbreaks, and the required scale-up of manufacturing."

In May, Barrett was part of a WHO group that prepared a target product



Credit: Courtesy UTMB

profile for a Zika vaccine, which gives vaccine producers guidelines for dose levels, schedule, delivery method and the target population for the vaccine during a Zika emergency.

"The idea is to produce guidelines on what is needed in, say, Brazil and other countries, to control the outbreak and protect women of child-bearing age from getting Zika," he said.

Researchers making vaccines face many challenges. They have to look at safety, immunogenicity—a vaccine's ability to produce an immune response in the body—and whether or not the vaccine works in animals.

There are promising studies with newly-developed candidate vaccines that can provide animals with immunity to the disease. And there are currently three Zika vaccine hopefuls in the first phase of testing in volunteers. That may sound like a good start, but before any vaccines become available in doctors' offices, they must be tested, which takes time.

Researchers also have to look at Zika's interaction with other viruses. Zika is part of a family of related viruses called flaviviruses, which include dengue, West Nile, yellow fever and Japanese encephalitis. Being infected with both Zika and a related virus at the same time, or already having immunity to another flavivirus, could alter how well a Zika vaccine performs, Barrett said.

"When making a vaccine, you want that protective immunity, and you also want to keep it from spreading throughout the body," Barrett said. "When

“The public expects a vaccine to be 100 percent effective and 150 percent safe.”

— ALAN BARRETT, PH.D.
Director of the Sealy Center for
Vaccine Development at
The University of Texas Medical
Branch at Galveston

you get a later infection, you want that immunity to stop the virus from multiplying. That is a high bar to set for a vaccine."

There are other questions that need to be answered, as well: Does the vaccine affect males and females differently? How does the vaccine interact with various bodily systems? How, exactly, does the immune system produce the desired protective response after vaccination? And what impact, if any, would the vaccine have on a pregnancy? Many researchers are investigating how to stop the virus from multiplying in reproductive tissues and fluids, Barrett said.

Ultimately, the mosquitoes have to cooperate. They tend to be most active during warm and humid months, so there is a limited window of time each year to determine how effectively a vaccine works in people.

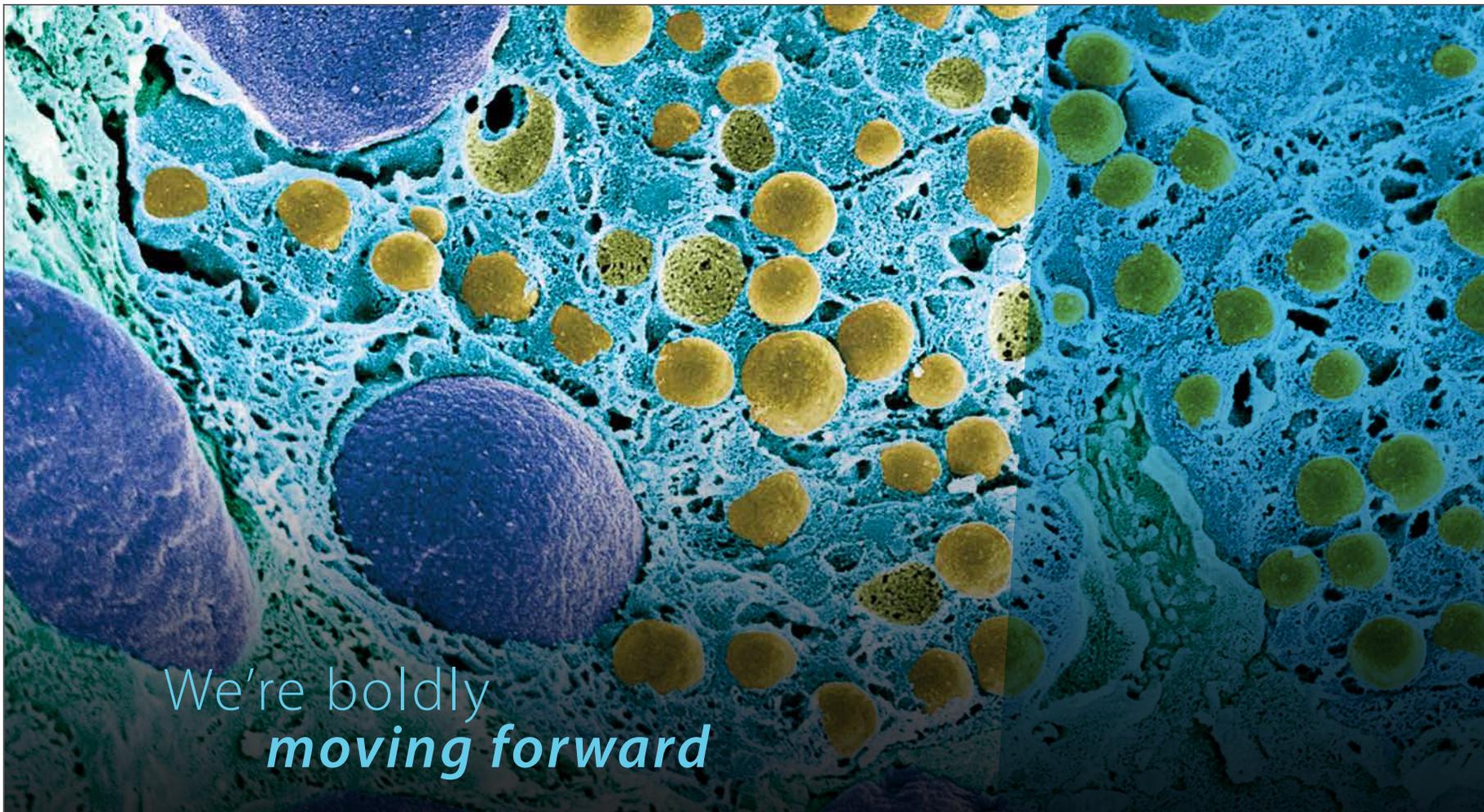
Researchers could study areas around the world where it is warm and humid year-round, but the virus would need to be active in those areas, Barrett said. Viruses do not tend to affect all areas at the same time, he added. Rather, they move around, which makes designing clinical trials very difficult.

Researchers are not sure if the virus will reappear in the next year. If it doesn't come back for three or four years, it will be difficult to conduct clinical trials, Barrett said.

"It's a tricky situation," he said. "As much as you don't want it to come back, you need the disease to show the vaccine works." ■



Aedes aegypti mosquitoes, which carry the Zika virus, in a laboratory at The University of Texas Medical Branch at Galveston.



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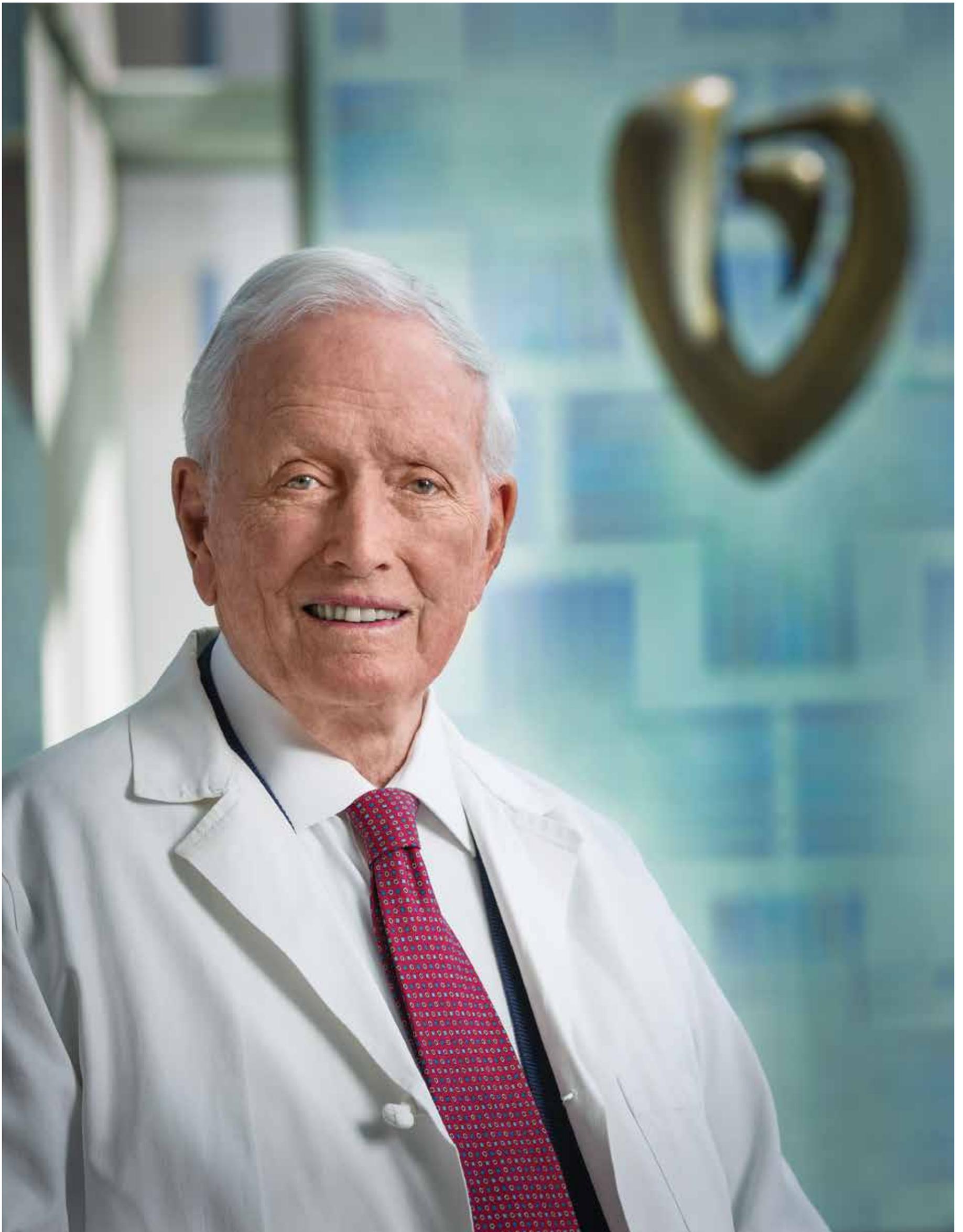
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Denton A. Cooley, M.D., 1920–2016

In memoriam

STAFF REPORT

Dr. Denton A. Cooley's fascination with the heart was enduring.

"It is one of the only organs that constantly has a visible action to it," Cooley told Pulse in 2015. "You can *feel* your heart beat." Because of that, he said, the heart "has enjoyed sort of mystical or even romantic significance."

Cooley, who died Nov. 18 at the age of 96, also enjoyed a near-mystical significance in the world of medicine. The Houston native was a pioneering cardiovascular surgeon who performed the first successful human heart transplant in the United States and became the first heart surgeon to implant a total artificial heart in a human.

His death is a loss for the Texas Medical Center, for medicine, and for the world.

Soon after his passing, former President George H.W. Bush released a statement that articulated the loss felt in Cooley's hometown:

"Denton's pioneering contributions to medicine are, of course, legend. But he also was a lifelong and leading citizen of Houston. All of us who call Houston home will always feel blessed to live in the city where Denton founded the Texas Heart Institute, making our hometown the global center of cardiovascular research and technology. You could even say it helps us sleep a little better at night. And of course Denton was a wonderful husband, father, and friend. He will be greatly missed, but we are happy he can rejoin his beloved Louise."

Cooley's wife, Louise, to whom he was married for nearly seven decades, died in October.

In the early years of his career, when heart surgery was in its infancy, Cooley operated on a dozen patients a day.

"I did the first successful heart transplant in the United States, and I was so impressed with the fact that you could actually replace this pump for the whole

“I've always thought life was like a marathon. You want to save some effort for the last hundred yards and have a little kick at the finish.”

—DENTON A. COOLEY, M.D.

circulatory system," Cooley told Pulse. "The heart is one of the simplest organs in the body... not nearly as complex as the liver or the kidneys."

Just two years ago, at age 94, Cooley worked 9 a.m. to 5 p.m., four days a week.

"I've always thought life was like a marathon," Cooley said. "You want to save some effort for the last hundred yards and have a little kick at the finish."

Cooley attended The University of Texas, where he was a varsity basketball player. He carried a scar on his chest in the shape of a UT symbol, earned during a social club initiation ceremony.

After two years at The University of Texas Medical Branch at Galveston, Cooley transferred to Johns Hopkins University School of Medicine, graduating in 1944. As an intern at Johns Hopkins, he assisted Alfred Blalock, M.D., in the first "blue baby" operation, named for the skin discoloration caused by a congenital heart defect.

Cooley went on to serve as a faculty member at what is now Baylor College of Medicine alongside the late Michael E. DeBakey, M.D., then the chairman of the Baylor department of surgery. The two doctors had a huge, well-publicized falling-out, but made amends before DeBakey died in 2008.

The 1950s and '60s ushered in exciting advancements in cardiovascular surgery—from the introduction of open-heart surgery, to transplantation, to mechanical assist devices.

Cooley was eager to blaze new trails and, by 1954, was driving the

beginnings of pediatric heart surgery at Texas Children's Hospital.

At the time, specializing in cardiology or heart surgery in adults—let alone operating on infants and children—was a new concept.

When Cooley was getting started, there wasn't even such a thing as a heart surgeon, said Charles D. Fraser, M.D., Cooley's son-in-law, co-director of the Texas Children's Heart Center and chief of the division of congenital heart surgery at Baylor.

"He was a surgeon who operated on the stomach, the gallbladder, the thyroid, the lung, the esophagus and, oh, by the way, also the heart," Fraser told Pulse in 2015. "Texas Children's was one of the birthplaces of pediatric care under his visionary pioneering. It was just them taking on the problems and figuring out ways to fix them."

The Texas Medical Center was growing at that time, and Cooley saw an opportunity. He founded the Texas Heart Institute in 1962 and served as its surgeon-in-chief for more than 40 years.

"Dr. Cooley wanted to create an entity that would try, through research, to help people with cardiovascular disease," James T. Willerson, M.D., president of the Texas Heart Institute, told Pulse in 2014. "He and his colleagues at the time were doing most of the heart surgery for the entire United States, in adults and children. But he wanted to do more than the surgery, and he believed that he could establish a Texas Heart Institute that would be involved in research and education—the education of young doctors, in all facets of cardiovascular disease."



Cooley at a patient's bedside in the 1970s. Credit: Texas Heart Institute

Over the years, Cooley and his team performed more than 120,000 open heart operations. Patients came from around the world to be treated by Cooley, whose operating rooms were often crowded with surgeons who wanted to watch the master at work.

Cooley and his wife, Louise, had five daughters, one of whom preceded them in death, as well as 16 grandchildren and 17 great-grandchildren.

"From a personal standpoint, I have always believed that a man who is going to get ahead has to have a balanced life," Cooley told Pulse. "I've tried, for most of my life, to give my first attention to my patients and to my practice, but also to my family."

Cooley will be remembered for his technical expertise and speed, his breadth of experience, and his judgment about how best to help individual patients.

Willerson told Pulse that Cooley was "probably the very best heart surgeon who has ever lived." ■

Up and Running

Team CATAPULT is on a mission to turn disability into capability

BY ALEXANDRA BECKER

Jessica Callahan grips the end of the green tether, waiting for her guide to tell her it's time. Soon, she and her guide, Allison Fowler, are running in tandem, their feet a steady metronome on the gravel. Callahan focuses on her steps, the give and take of the rubberized resistance band, the exuberance she feels as she flies down the path. The sun, rising, slices through the trees, and all around her the city is waking up. She knows Memorial Park is crowded, and she knows her teammates are close, but she cannot see any of it.

Born five months premature, before her retinas had time to fully attach, Callahan has been blind her entire life. But the 30-year-old Fairfield, California native, who lived in an incubator and was "touch and go" until she was four months old, fought through.

She's been fighting ever since.

Callahan is training for January's

Aramco Houston Half Marathon, with plans to race in the Chevron Houston Marathon in 2018. She runs with the help of guides through the nonprofit organization CATAPULT, which supports physically challenged individuals who wish to compete in running and endurance sports.

"Everybody is very encouraging," Callahan said. "There's a certain camaraderie in the running community, and CATAPULT makes us feel safe. They're really looking out for us."

CATAPULT was founded in 2015 by two Houston-area triathletes, Chris McClendon and Jarrett Hubert. The two men were already working with visually-impaired runners when they identified an overwhelming need for a local organization dedicated to athletes with multiple types of physical challenges. Shortly thereafter, they recruited Paralympian Mark Barr, who

“What we're doing goes beyond the track. It's providing a social network and an outlet.”

— JARRETT HUBERT

CATAPULT Chief Executive Officer

placed fourth in the first Paralympic Triathlon event in Rio in October, to help coach. A trauma-surgical ICU nurse at Harris Health System's Ben Taub Hospital, Barr lost his right leg to osteosarcoma when he was 14.

CATAPULT's mission is to provide full access to endurance sports to any individual working to overcome a physical challenge—no matter their skill set. Athletes range from new amputees and those who have no experience running to aspiring Paralympians. Through training, hands-on coaching and education, CATAPULT volunteers share their own love for sport.

"I think a lot of physically challenged individuals don't realize their capabilities, so we're raising awareness," said McClendon, president of the organization. "We're saying, 'We're here to turn your disability into a capability.'"

Prosthetic knees

Central to CATAPULT's mission is fundraising. Not only can race entry fees and travel expenses add up, but purchasing the prostheses needed to compete can sometimes feel like an insurmountable hurdle. Running prostheses, deemed medically unnecessary by insurance companies and therefore rarely covered, can run upwards of \$20,000 each.

"Having access to the right equipment is obviously pretty crucial for these individuals," Barr said, "so we made that a priority."

This past summer, a local family reached out to CATAPULT for help with their son, Calder Hodge, a double amputee. Hodge, now 11, dreams of playing in the NFL, but he only owned fixed blades that did not bend at the knee, creating excess strain on his hips. After brainstorming fundraising options, CATAPULT decided to put together their first-ever annual 5K, with the inaugural race benefiting new prosthetic knee components for Hodge. Through social media and marketing, the group created quite a buzz.

"A lot of people got excited about it and were sharing it," McClendon said. "Through that process, an anonymous donor walked into the Hanger Clinic and covered the entire bill for both of his knees."

That act of generosity allowed CATAPULT to send Hodge and his



CATAPULT athlete Jessica Callahan, left, and guide Allison Fowler. Callahan has been blind since birth and runs tethered to Fowler.



Thanks to CATAPULT's fundraising and outreach, athlete Calder Hodge got new prosthetics with knees, which will help him run and compete.

family to camps to learn how to use his new prosthetics.

"It was great seeing the community come together like that for him," McClendon said. "It's why we do what we do."

Beyond the track

Twenty-six-year-old Patrick Pressgrove, who lost his legs when he was 13, said the organization's support has opened up an entirely new world for him.

"About a year ago, CATAPULT sponsored me to run in a 5K, and I

wouldn't have been able to afford it myself," he said. "That really meant a lot to me, and that was my first race ever. Now they tell me anything I want to compete in, they'll try their best to help me out."

Like Callahan, Pressgrove is training for the half marathon in January. Twice a week, he and other runners gather at Memorial Park with a group of CATAPULT athletes and coaches to practice. Invariably, the sessions evolve into more than running.

"What we're doing goes beyond the

“ Having access to the right equipment is obviously pretty crucial for these individuals, so we made that a priority. ”

— MARK BARR

Paralympian and CATAPULT coach

track," said Hubert, CEO of the organization. "It's providing a social network and an outlet."

Recently, McClendon celebrated his birthday at Mo's... A Place for Steaks before it closed its doors in late October. Callahan, a musician and vocalist who began a recording career when she was just 13, spent her evenings there at the piano. The night ended with the CATAPULT team standing around her as she played, all of them singing together in unison.

"It had nothing to do with running, nothing to do with working out. It just had to do with friendships and being there for each other," McClendon said. "We're really starting to become like a family."

Mark Barr's drive and determination as a triathlete and CATAPULT coach have also had a profound effect on the

group. For some, life has grown richer after losing a limb.

"Mark really showed me more of what's possible as an amputee," Pressgrove said. "So far in my life, I've done more as an amputee than I'd ever done before. Between his help and their sponsorship, my life's going uphill now."

Barr occupies a unique role. As an elite athlete, he carries a wealth of knowledge about physical health and nutrition, some of it specific to individuals who have lost limbs. As a trauma nurse, he provides care to new amputees, often serving as a source of inspiration.

A new dream

In February, a well-known Houston-area triathlete, Adessa Ellis Blankenship, was struck by a car while riding her

The Chevron Houston Marathon and Aramco Houston Half Marathon

WHEN: 7 a.m., Sunday, Jan. 15, 2017

WHERE: Starts at Congress and San Jacinto Sts.; ends at Lamar and Crawford Sts., one block from the George R. Brown Convention Center

DETAILS: Rain or shine; the event has never been canceled in its 44 years. Races are sold out, but spectators are welcome.

INFO: chevronhoustonmarathon.com

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In anticipation of Super Bowl LI, which Houston will host, the Jan.-Feb. 2017 issue of *Pulse* will be devoted to sports.

This special issue of *Pulse*, available in racks around the Texas Medical Center starting Feb. 1, will have bonus distribution leading up to the Super Bowl.

To advertise in *Pulse's* sports issue, call 713.791.8894 or email newsads@tmc.edu. The deadline for space reservations is Jan. 2, 2017.

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CATAPULT athlete Alex Hordge with his guide during a training session in Memorial Park.

bike during a training session for her seventh IRONMAN. Her injuries were so extensive that her physicians later said she had less than a one percent chance of survival. Blankenship was transferred by Memorial Hermann Life Flight to the Memorial Hermann Red Duke Trauma Institute where, thanks to swift work on the part of the trauma team, she survived. After eight months of surgeries, she was finally in a place where she could see a future—and it involved running.

Her lower left leg, however, posed a problem. It had been hit with such force during the accident that mud was embedded in the marrow, triggering persistent infections and the subsequent cutting away of more and more bone. There was no guarantee she would ever recover full function and, after weeks of deliberating, she ultimately made the difficult decision to amputate.

Nils Fowler, a CATAPULT guide, was one of Blankenship's primary nurses during part of her recovery. After hearing of her amputation, he immediately connected her with Barr, who, along with several other members of the team, paid Blankenship a visit. They spent hours in her hospital room, answering question after question, and when the group finally left, Blankenship's new dream had solidified: Tokyo 2020 Paralympics.

Race day

One of CATAPULT's hopes is that through their organization, events like the Houston Marathon will cater increasingly to athletes with physical challenges.

"On race day, there's going to be nearly 30,000 people," said Fowler, who is blind in his right eye and has a keen understanding of some of the challenges CATAPULT runners face. "Last year, it was very chaotic. We try to have one person in front, one behind, and then a guide, and still people with headphones try to run through the tethers. At the end of the day, though, if the athlete can't get to the finish line, then you didn't do your job."

CATAPULT wants to showcase Houston as an accessible city for disabled athletes.

"Jarrett and I have been in the triathlon and running community for so long, and we personally know a lot of these race directors and they're all willing to work with us," McClendon said.

Fifteen CATAPULT runners have signed up to race the marathon or half marathon on Jan. 15. Their goals are the same as any runner's: to cross that finish line and be handed a medal, to share with the other exhausted athletes an overwhelming sense of pride and accomplishment.

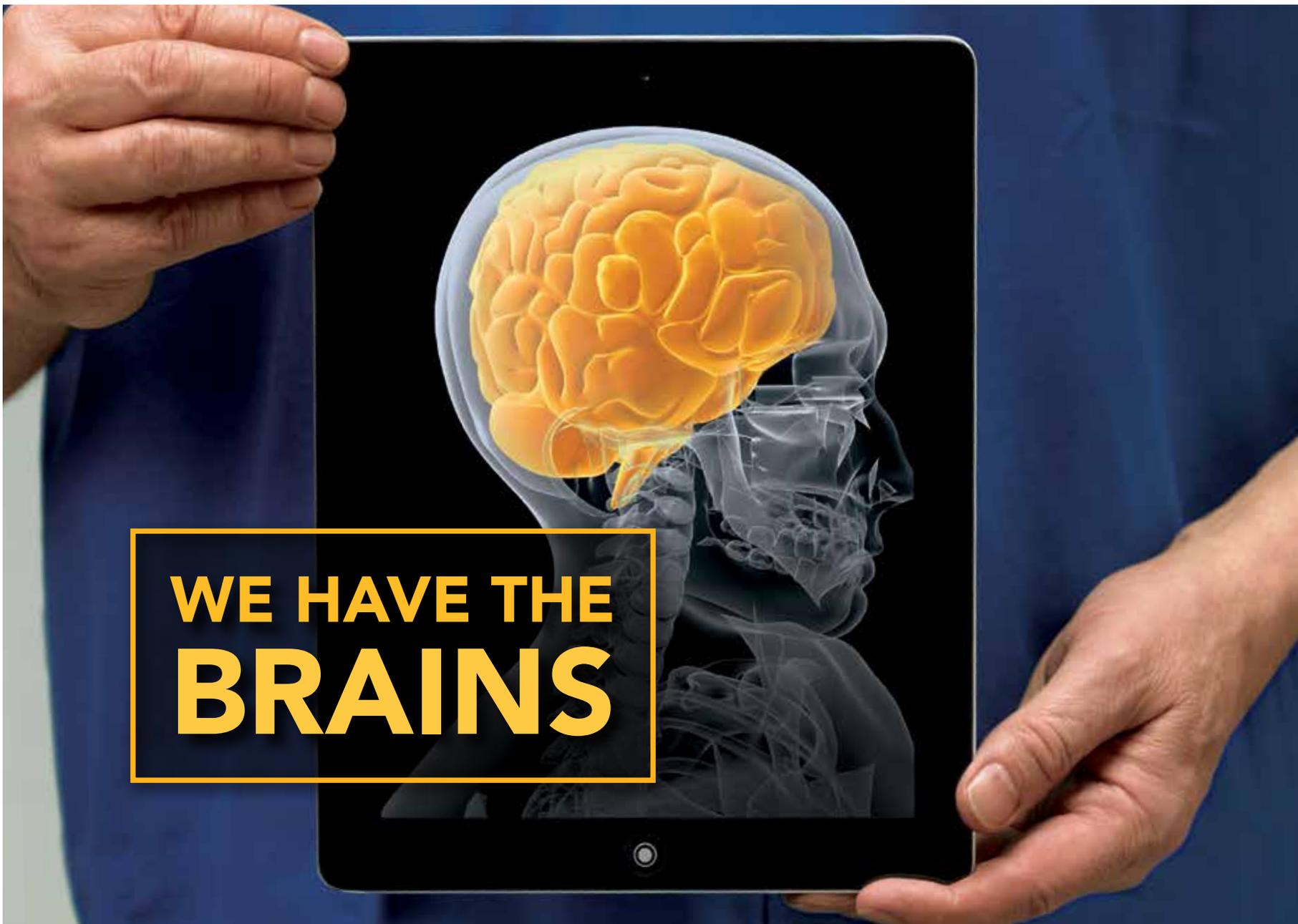
"I know our athletes will say it's a privilege for them to run with us, but it's the other way around," Fowler said. "It's a privilege that they allow us to run with them." ■


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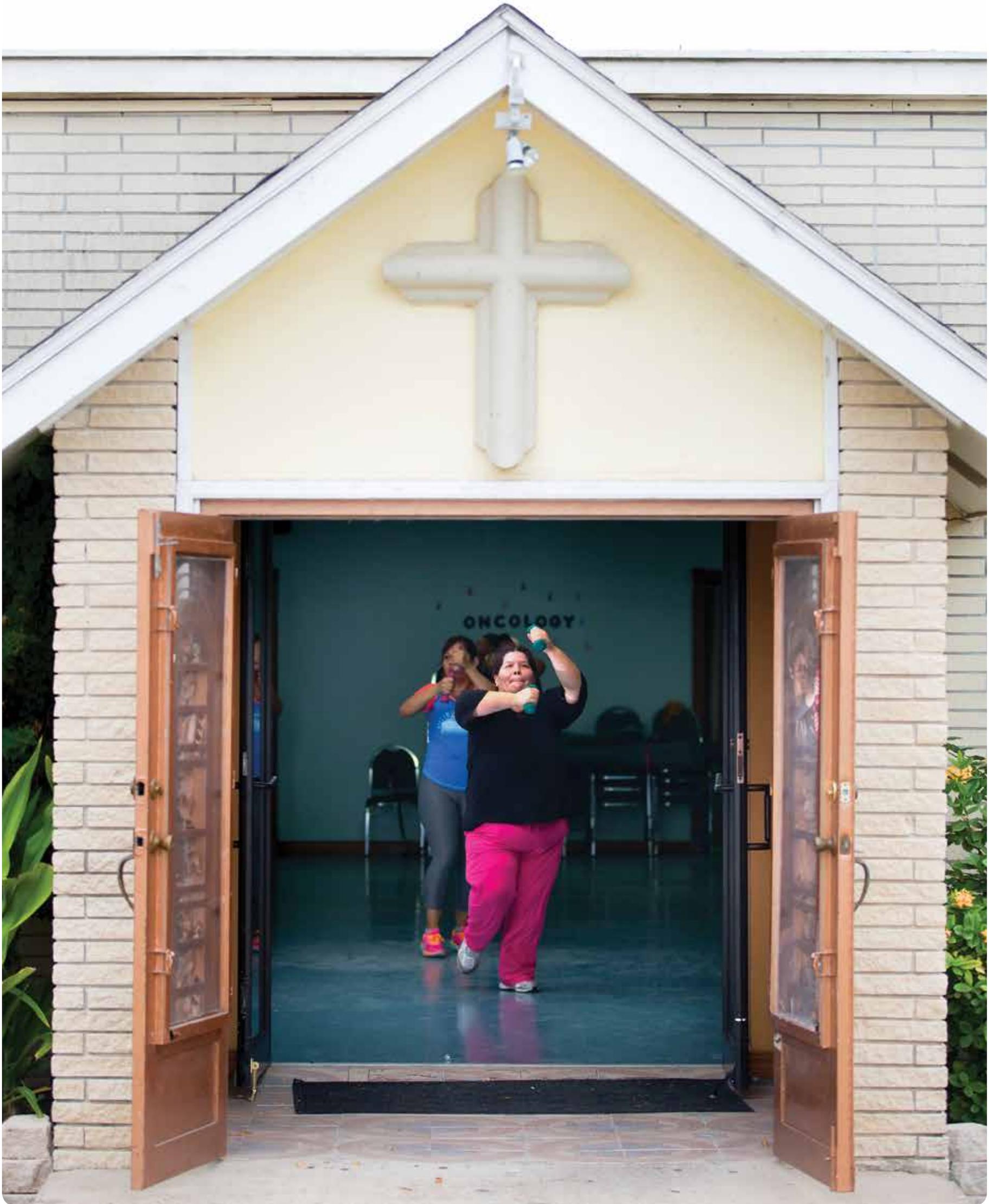
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ADVANCING HEALTH



MOBILE MEDICINE ON THE BORDER

STORY BY ALEXANDRA BECKER • PHOTOGRAPHY BY CODY DUTY

In the evenings after work, Francisco Garza and his family have a new tradition.

After a healthy dinner at home, they head outside to a row of bicycles parked under a small grove of trees. The Texas sky yawns pink and orange and, one by one, Garza and his wife, sons, daughters and daughter-in-law hop on. Soon, they are speeding down the driveway past rows of tires stacked with wood and clay-cracked farmland that spans the horizon. They are racing against the sunset, and right now, the Garza family is winning.

Francisco Garza has Type 2 diabetes. Less than a year ago, he spent his nights couch-surfing before turning in early. Now, he likes to say he's traded beers for bananas and tells everyone who will listen the grave importance of keeping their sugars under control.

"This illness," Garza said in Spanish, "is a slow death. If we don't figure out how to fight it ourselves, we won't survive. We won't survive in good condition, and my family depends on me being well. I don't want to be a burden to my family in the future."

Garza owes his health to his own hard work and grit, but also to the decision of one couple who moved from Lyons, France to Brownsville, Texas in 2001. Susan Fisher-Hoch, M.D., and her husband, Joseph McCormick, M.D., had been working in exotic locales around the globe—Pakistan, Africa, Brazil, France—addressing public health crises, particularly viral hemorrhagic fevers. But they had been

aching to return home and hoped they could apply their expertise to a more local community in need. When the opportunity arose to start a new regional school of public health for The University of Texas Health Science Center at Houston (UTHealth), they immediately headed to the southernmost tip of the second largest state in the nation.

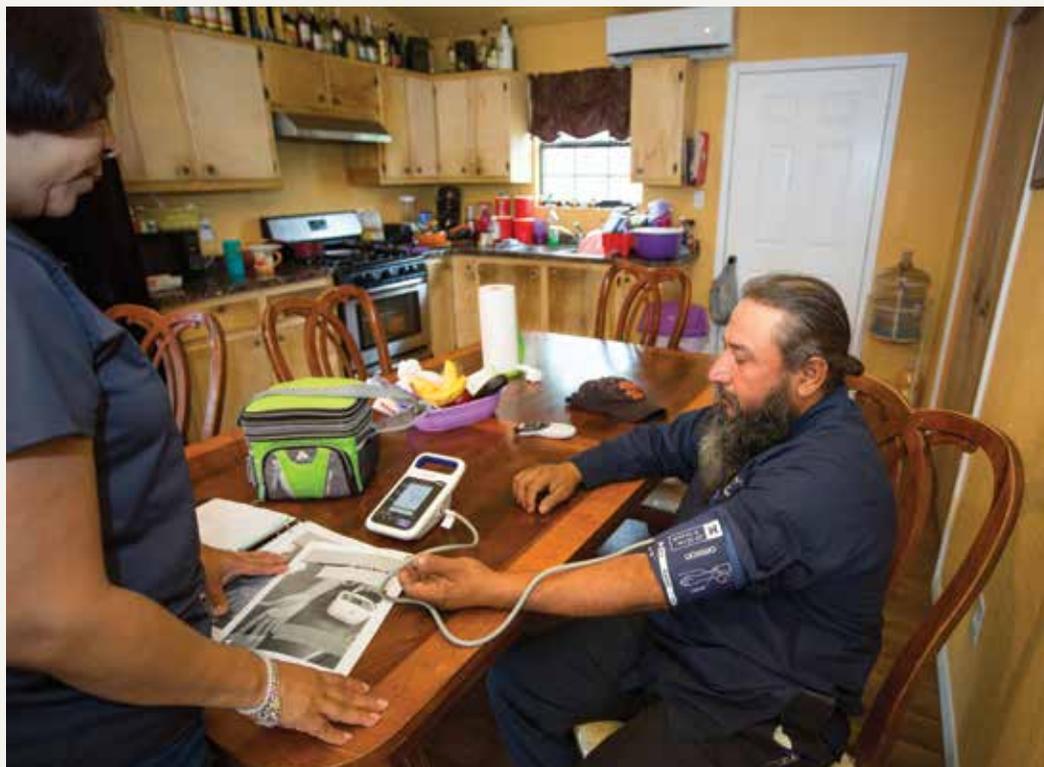
"We've always worked in mixed-culture, mixed-language settings, and we enjoy it," said McCormick, now the regional dean of the UTHealth School of Public Health in Brownsville. "When we decided to come here, we said, 'Let's set up our research program, but let's make it translate into real change in the community, a real opportunity for affecting the health of the community.'"

Their first challenge was to determine the biggest health issues facing the region, which meant collecting raw data. Starting from scratch in 2003, they applied for a National Institutes of Health (NIH) grant under what was then the new National Institute on Minority Health and Health Disparities. They were awarded \$7.5 million. With funding and resources in hand, the team descended upon the Rio Grande Valley, one house at a time. Going door-to-door, Fisher-Hoch, McCormick and their team created a local cohort for clinical research that has since grown to more than 4,500 individuals.

"This needed to be a random sample of the population so we could really measure the prevalence of these conditions and chronic diseases," McCormick said.

(continued)

Facing page: Brownsville residents participate in a morning workout class inside a local church. Right: A community health worker measures Francisco Garza's blood pressure in his kitchen in San Benito, Texas.





Veronica Rosenbaum, director of the Brownsville Wellness Coalition, works in a community garden.

As a core component of the UT Center for Clinical and Translational Sciences (CCTS), a region-specific clinical research unit was created to gather data for a first-of-its-kind long-term study of this population. Participants in the cohort are asked to follow up every five years and are invited to join in other research being set up. If disease or risk factors are found, researchers connect them with appropriate medical care.

“We can’t do intervention because it’s a cohort and it’s for understanding what it is we need to do,” explained Fisher-Hoch, a professor in the Department of Epidemiology, Human Genetics & Environmental Sciences at the campus who also oversees the clinical research unit. “If you use the data we generate to figure out who it is, what they’ve got, where they are and what the risk factors are, then you know what you’re doing.”

Since its creation in 2004, the clinical research unit has published more than 40 papers defining the burden of disease in the area. The statistics are sobering.

“We have the highest amputation rates in the country,” Fisher-Hoch said. “We have the

highest rates of liver cancer. We have the highest rates of a lot of things, including diabetes, of course. These all go together.”

Based on the data collected and analyzed, more than 50 percent of the adult population is obese, and another 30 percent is overweight. Twenty-eight percent has Type 2 diabetes, though 43 percent don’t know it. Of those who know, only half are under treatment. More than 33 percent of the population has hypertension, but 40 percent of that group goes untreated. All this is compounded by the fact that nearly 70 percent of the population is uninsured.

“This is what poverty looks like,” McCormick said.

Salud y Vida

The team’s initial efforts to collect health data from the local population were simultaneously supported by the creation of a community advisory board and outreach program. In McCormick’s words, they are not just sitting there in an ivory tower, writing papers.

“We want to work with you, try to empower you to be able to take matters in your own

hands, change your community and do better,” McCormick said in an interview on campus, where buildings are lined with ceramic Mexican tiles and surrounded by lush landscaping dotted with palm trees.

McCormick emphasized the multifaceted approach of their mission and the importance of pulling every corner of the city and surrounding areas into one large support network.

“Everything that we’ve tried to put into place has been through partnerships,” said Belinda Reininger, Dr.P.H., the lead researcher for UTHealth’s community-wide health initiative and co-director of the CCTS Community Engagement Core. “It’s not like the school of public health came in and we have done all this stuff—it’s not that at all. It’s actually the exact opposite of that. Everything we’ve done has been in partnership and through collaboration. It’s about integration of research and teaching and community outreach.”

Because diabetes affects more than 25 percent of the population, much of the program’s work is linked to its detection and management, with a focus on education, access to healthier foods, exercise classes and medication, if necessary.

The Salud y Vida (Health and Life) program is made up of local organizations dedicated to helping community members with

“ We have the highest amputation rates in the country. We have the highest rates of liver cancer. We have the highest rates of a lot of things, including diabetes, of course. These all go together. ”

— SUSAN FISHER-HOCH, M.D.

Professor in the Department of Epidemiology, Human Genetics & Environmental Sciences at the UTHealth School of Public Health in Brownsville



uncontrolled diabetes, most of whom are uninsured. It is part of a Medicaid 1115 Waiver, which allowed Texas Health and Human Services to expand Medicaid managed care to impoverished areas.

The program is built around community health workers, known as “promotoras,” who go door-to-door to provide education, encourage behavior change and offer referrals and support for improving blood sugar results. At home and in the workplace, the promotoras build continuity between the messages delivered by the providers of the Salud y Vida program during clinic visits and the participants’ actions at home and in the community. If uncontrolled diabetes was diagnosed, promotoras support and educate individuals on everything from A1C tests (which measure average blood glucose levels) to foot sores—a hallmark of diabetes and one that often leads to amputation.

“When the promotora first came to take my A1C, she said, ‘Not good, sir, lose weight,’” Garza said. “I didn’t even know what A1C was. I thought A1C was an energy drink, one of those like Red Bull. I mean it. Why? Because, my whole life I knew about the law, immigration, attorneys, accidents, about everything, I knew. But I didn’t know about health. I focused on fighting for my family to grow, for them to be respectful, honest, hard-working, but I never



Left: Alma Martinez explains healthy nutrition choices to a diabetes self-management class.



Right: Joseph McCormick, M.D., regional dean of the UTHealth School of Public Health in Brownsville.

thought of learning about health.”

Garza is a family man, his face framed by a long beard he’s been growing for two years as a religious promise for one of his sons. He built his auto business—The Family Road Service—for his children to inherit. His house, painted a robin’s egg blue and situated on a sizable, well-kept strip of land, is home to multiple members of his family, including children and in-laws. He is grateful that they have all

embraced a healthier lifestyle.

“God has blessed me through the effort my wife has made, my family has made,” he said, “because eating doesn’t change for the diabetes patient only. No one got away in my house. Why? Because they have to look after father-in-law or grandpa? No. Because they’ve also learned that they need to have a balanced diet and exercise to have healthy lives.”

(continued)



A patient’s home in the Valley, where more than 90 percent of the population is Hispanic and nearly 70 percent of the population has no health insurance.



Left: The Mobile Health Clinic parks at five different locations in the Valley. Right: Paul Toscano, PA, helps patient Nelda Cantu-Cruz off the bus after a check-up.

It's a complicated process, putting patients in charge of their health, but for individuals living with Type 2 diabetes and other chronic but manageable medical conditions, it can mean the difference between life and death.

"Instead of just handing participants a piece of paper and saying, 'Here, change your diet,' we're looking at: What does that mean? What can you afford? How do you cook that? What are some ideas for access?" explained Lisa Mitchell-Bennett, M.P.H., M.A., project manager for campus-based outreach and research. "In every way, we want to create a back-up system or a support system for implementing those recommendations."

The entire city of Brownsville, it seems, is on board. Local churches have opened their doors to exercise classes rooted in Zumba® and Latin dance. Evening sessions feature tips on portion sizes and nutrition labels, as well as "diabetes bingo." The Brownsville Wellness Coalition, which has funding provided by CCTS, was created to manage the Brownsville Farmers' Market, five community gardens, a mobile farmer's market, and gardening and cooking classes. And the City of Brownsville is currently in plans to create a more bicycle- and walking-friendly city. The UTHealth team also broadcasts weekly health segments on local television, and Mitchell-Bennett writes a regular column about health promotion practices for two newspapers in Cameron County.

"It's systematically changing our community through policy change, environmental change, media, social media, community health workers—all of it," Reininger said. "Addressing health disparities is not a simple fix, so we're not trying to simplify. We're trying to build complementary strategies."

A safe haven

Located on the border where the Rio Grande and a high metal fence are visible from countless vistas, the Valley is home to many low-income and uninsured residents, some of whom do not qualify for health care in the U.S. and who find it difficult to make a living wage.

Recognizing this gap, UTHealth commissioned the Mobile Health Clinic for underinsured patients or patients with no health insurance at all. Regardless of legal status or ability to pay, the mobile clinic is a safe haven for those in need of acute care for minor illnesses and injuries, immunizations, blood tests, well women exams, physicals, help managing diabetes, and more.

“This clinic has been sent from heaven for my husband and myself. The only thing I can afford is this little bus.”

— NELDA CANTU-CRUZ
Local kindergarten teacher and patient

Painted burnt orange and outfitted with a small exam room and sitting area, the clinic is run by Paul Toscano, a physician assistant who grew up in Harlingen, about 30 miles north of Brownsville. As a young boy, Toscano had always dreamed of going to medical or dental school, but life took him in a different direction. After college, he moved to San Francisco to work as a news videographer for an ABC

network station and spent years chasing stories up and down the Northern California coast. One day, he found himself working on a segment about migrant health workers, many of whom were sick with nowhere to go. Their stories pulled at his long-buried dreams and, then and there, he decided to go back to school.

The clinic parks at five different locations throughout the area for two months at a time. Initially, its purpose was to focus on screening and acute care, but it has grown to treat chronic illnesses, as well, and is now the only clinical care many have. Toscano and his medical assistant, Flor, take time to educate their patients.

"We do a lot of social work here," Toscano said. "When patients come in, they get the diagnosis, the education, we do the physical exam—we do everything. Before they walk out, we always help them find their medications and then we can tell them where to go and give them coupons. The visit takes a lot of time, but we want to provide them with the whole spectrum of care."

Nelda Cantu-Cruz is a local kindergarten teacher and a patient at the mobile clinic. Due to a medical disability, her husband is unable to work, so she is the sole source of income for her household. Although the school provides her with insurance—for a fee of \$525 a month—she cannot afford the additional \$4,000 deductible.

"This clinic has been sent from heaven for my husband and myself," she said. "The only thing I can afford is this little bus."

Cantu-Cruz shares the clinic's number with anyone in need, especially at her school where the majority of her students are first-generation citizens, whose parents are often at a loss when it comes to seeking out medical care.

"It's sent from heaven for them because they



have nowhere to go," she said. "Even people that work can't afford to go to the doctor. I have insurance but if I didn't use this bus, I don't get to pay all my lights. I don't get to buy groceries."

The clinic has created partnerships with local hospitals and specialists as far away as Houston for cases that require further expertise and care. Toscano is currently collaborating with The University of Texas MD Anderson Cancer Center to provide specialized cervical screening for his patients, and he is always looking for new specialists willing to offer their resources to this population.

Just getting started

Slowly but surely, the Rio Grande Valley is getting healthier.

Salud y Vida has determined that 70 percent of the program's participants have lower glucose levels at their three-month follow-up visit and the community is spreading the word about diabetes management and prevention. Basic health care is now accessible to an increasing number of residents, and the UTHealth School of Public Health in Brownsville, which has brought more than \$70 million in grants and funding to the region since McCormick and Fisher-Hoch arrived, says it's just getting started.

"This is working because of our local

partners, our community advisory board made up of hundreds of organizations in this region, but also partnerships with UT and other institutions across the state," Reininger said. "We're accessing funding from a variety of places but also have a common vision of what to do with it."

Their initiative has been so well-received that, according to McCormick, the model they created for translating scientific research into community impact will be integrated into The University of Texas System's new plan for population health.

"I feel like our achievement is not just here in Brownsville, but it's also reached across the state," he said. "We're starting to do what we said we would do."

During a recent home visit, Francisco Garza sat at his kitchen table while a community health worker measured his blood pressure and glucose levels. A bowl of fruit had been scooted to the side to make room for new informational handouts. Around them hung photos of the Garza family and images of the Virgin Mary.

Garza's levels looked good, and he felt happy that his hard work was paying off. Finally, he asked the question that had been weighing on his mind: How could he become a promotora himself?

Overhearing this, his wife laughed. "You're telling everyone you know about



Salud y Vida participant Blanca Holland inside her clothing shop with promotora Rosalia Ramirez. Below: A morning workout class sponsored by Salud y Vida.

being healthy," she said, noting the neighbors, his clients and the random person sitting next to him at a Salud y Vida event. "You're already a promotora!" ■



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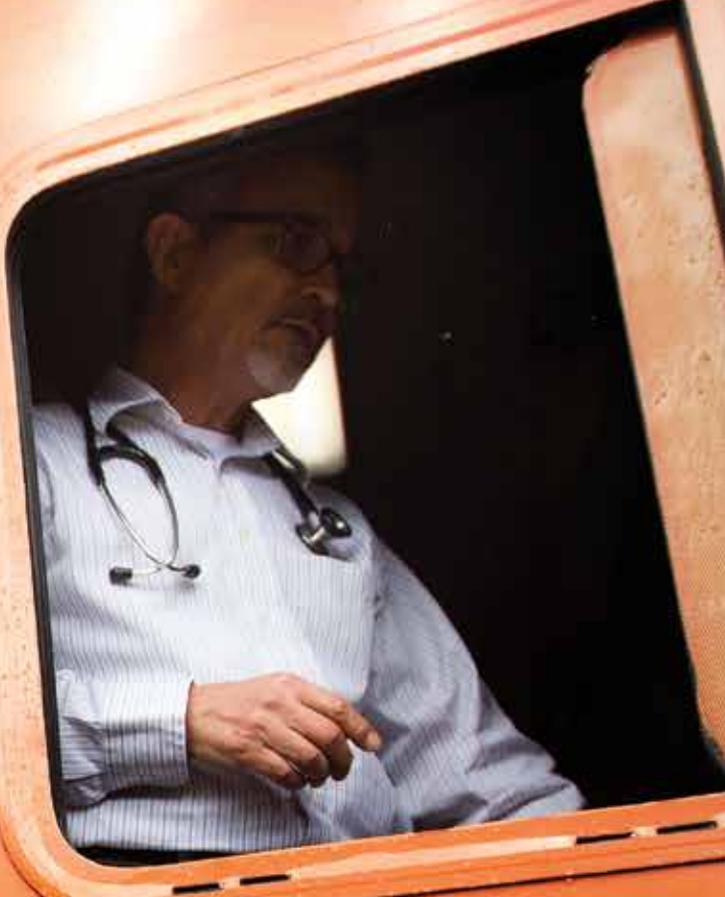
The University of Texas School of Public Health in Brownsville hopes to reduce and ultimately eliminate health problems specific to Hispanics living by the South Texas border. The school's multi-pronged approach includes research, education, nutrition and exercise programs, and community partnerships.



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Above right: Paul Toscano, PA, inside the Mobile Health Clinic.

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*Brownsville, Texas**

More than 90%

OF THE POPULATION
*is Hispanic**

Nearly 70%

OF THE POPULATION
is uninsured

More than 50%

OF THE ADULT POPULATION
*is obese, and an additional
30% is overweight*

More than 33%

OF THE POPULATION
*has hypertension, of which about
40% goes untreated*

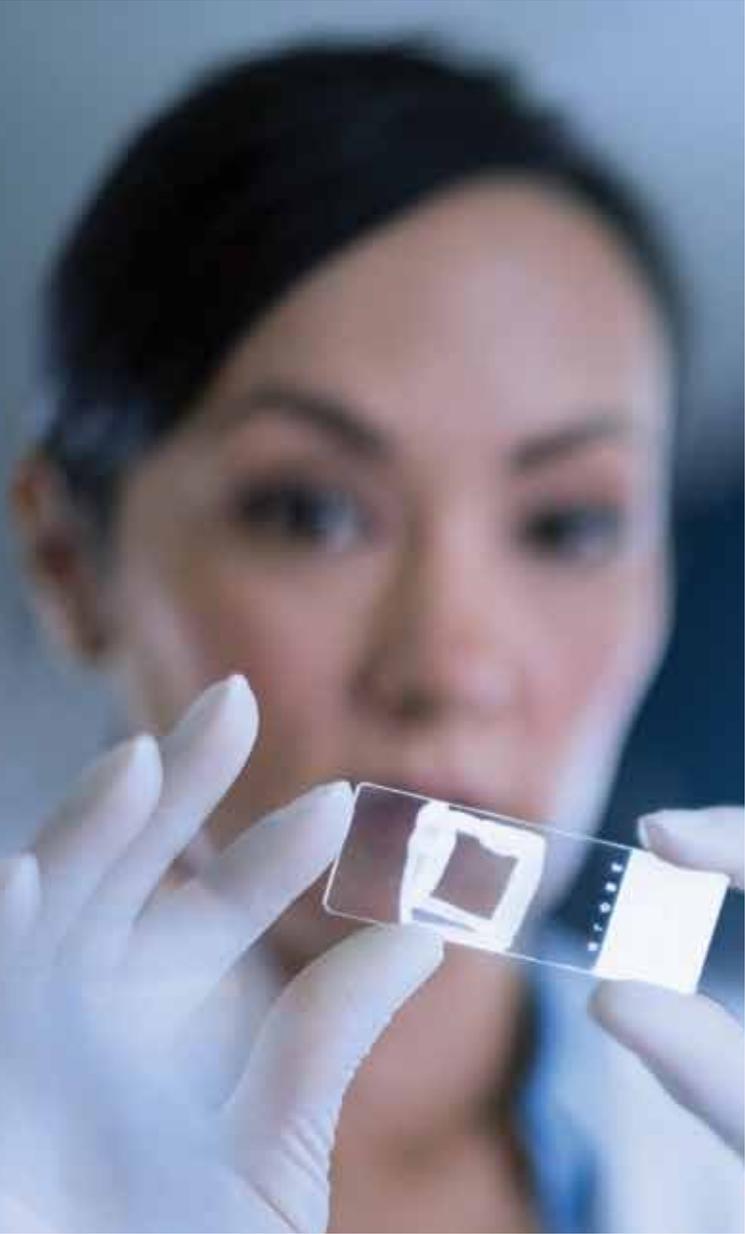
28%

OF THE POPULATION
*has Type 2 diabetes; 43% of these
individuals are unaware they
have diabetes*



THE BROWNSVILLE POPULATION
*shows almost twice the rate of
liver cancer as the rest
of the country*

**Source: United States Census Bureau*



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Cheers!

Balancing health and holiday spirits

BY BRITNI N. RILEY

It's that time of year again. The season of family visits, gift-giving and maxing out your credit card.

It's also the season of back-to-back parties, which is one reason Americans consume more alcohol in December than in any other month.

But drinking in moderation, experts say, can be good for you.

"Alcohol can help people relax and, depending on what they drink, it can improve cardiovascular function," said John P. Higgins, M.D., sports cardiologist at The University of Texas Health Science Center at Houston's McGovern Medical School.

Moderate alcohol consumption is defined as one drink per day for women and up to two drinks per day for men. One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a 1.5-ounce shot of liquor.

Of course, some types of alcohol are healthier than others.

Averaging 125 calories per glass, red wine is reasonably low in calories compared to mixed drinks and has several health benefits. Resveratrol, a compound found in the skin of red grapes and certain berries, contains powerful antioxidants and improves blood flow.

"The most bang for the buck is with red wine—a glass or two of red wine per day will boost your vascular function," Higgins said. "Following that is then white wine, followed by liquor and then beer, at the bottom of the barrel. With beer, you get a lot of calories and carbohydrates. You also have to be careful when it comes to the mixed drinks, such as piña coladas, because they can be pretty heavy, as well, in terms of calories and sugar."

To avoid gaining weight during the holidays, Higgins recommends simply keeping in mind that alcohol does have calories. If you are planning to drink two glasses of red wine at a party, add

250 calories to the calories you count for your meal and load up on salad instead of that side of mashed potatoes. Enjoying one extra drink each day over the course of a year can add 10 extra pounds to your body if you do not take something else away, he cautioned.

Alcohol dulls the nervous system, which helps reduce stress and lowers inhibitions. While this can be a good thing when you are trying to unwind, it is important to remember your limits.

"I tell my patients that I have a rule. For each alcohol drink they drink, have a glass of water," Higgins said. "Even when you are ordering, order your drink and a glass of water, as well, and make sure you drink that water. That will



help to rehydrate you. I also recommend having an alcohol-free day at least once a week. On those days, you can have just water or some sort of diet juice that is not too high in carbohydrates."

Higgins also recommends exercise to help burn off alcohol.

"During the holidays, if you can, for each drink you have, walk for about half an hour or play about a half an hour of golf," Higgins said. "Alternatively, you can swim or bicycle or do aerobics or play tennis for about 15 minutes, or jog or run for 10 minutes. Just remember, for one alcoholic beverage, it is going to take you a little bit of time to burn off the calories." ■

BURNING OFF ALCOHOL



CHAMPAGNE
84 CAL



SPIRIT SHOT
97 CAL



LIGHT BEER
103 CAL



WHITE WINE
121 CAL



MARTINI
124 CAL



RED WINE
125 CAL

ACTIVITY

TIME REQUIRED TO BURN CALORIES

Walking/Water aerobics/Golf (5 cal/min)	17 min	19 min	21 min	24 min	25 min	25 min
Swimming/Bicycling/Aerobics/Tennis (10 cal/min)	8 min	10 min	10 min	12 min	12 min	13 min
Jogging/Running 10 min/mile (15 cal/min)	6 min	6 min	7 min	8 min	8 min	8 min
High Intensity Interval Training (18 cal/min)	5 min	5 min	6 min	7 min	7 min	7 min



GIN & TONIC
150 CAL



REG. BEER
153 CAL



MARGARITA
168 CAL



CIDER
200 CAL



EGG NOG
262 CAL



PINA COLADA
490 CAL

ACTIVITY

TIME REQUIRED TO BURN CALORIES

Walking/Water aerobics/Golf (5 cal/min)	30 min	31 min	34 min	40 min	52 min	98 min
Swimming/Bicycling/Aerobics/Tennis (10 cal/min)	15 min	15 min	17 min	20 min	26 min	49 min
Jogging/Running 10 min/mile (15 cal/min)	10 min	10 min	11 min	13 min	17 min	33 min
High Intensity Interval Training (18 cal/min)	8 min	9 min	9 min	11 min	15 min	27 min

Source: John P. Higgins, M.D.

My Wedding Dress, Reborn

A local nonprofit sews burial clothes for babies

AN ESSAY BY ALEXANDRA BECKER



Writer Alexandra Becker on her wedding day.

I was married June 7, 2014 in a sweet-heart wedding gown layered with lace and sheer chiffon. It was not my first marriage, but such is the wreckage of life.

As the sun broiled and sank into the horizon, we said our vows, toasted and danced—the night burst with promise and the hem of my white gown was swept up in the euphoria of a crowded, dirty dance floor. My husband and I spent the next seven days winding through the dirt roads of Central America, then flew back to Houston hand-in-hand to a reality we already loved. The following Saturday, with slight apprehension and a mixture of warm tap water and Dawn, I soaked the bottom of my wedding dress in our kitchen sink and watched as the russet color faded back to white. It was bitter-sweet, rinsing away hours of bliss.

A year and a few months later, after my amniotic fluid had fallen to levels considered dangerously low, surgeons delivered our daughter four and a half weeks early via Cesarean section. For nine days we lived in the NICU, holding her tiny body to our bare chests, all three of us tangled in wires and tubes. My husband and I hummed lullabies, cheered as she reached critical milestones, and described to her in gratuitous detail the crazy, magnificent world that we hoped would be hers.

Today, our lives are filled with the squeals of a healthy toddler, her smile so vast it fills her face, dimples sitting on each end like permanent exclamation points.

It is as if she knows how lucky we are.

Heartbreaking list

Two days before our daughter's first birthday, I drove to Katy, Texas, to meet with Diane Dionne. Draped across the back seat was my wedding dress.

Dionne runs a nonprofit that provides burial gowns for babies who die either before, during or shortly after birth. The gowns are crafted from donated formal dresses once steeped in happiness: the thrill of a prom, a brother-in-law's raucous toast, the promise of a future filled with love. For something as tragic as the loss of a new life, the fabric from these dresses offers a small caress, a moment of grace amid interminable heartbreak.

Dionne was inspired to start her nonprofit after her own daughter lost a baby girl. The day after the baby died, Dionne drove her daughter to the mall in search of a burial garment for the tiny body. Through tears, mother and daughter drifted through department stores crowded with the hallmarks of happy consumerism: pop music, perfume, ads plastered with smiles. After hours of shopping, Dionne's daughter finally settled on a set of doll clothes.

"They were made in China, with no love at all," Dionne said. "To this day, she won't set foot in those stores. It makes me feel good to know we're helping families so they're not having to go through what my daughter had to go through. The pain does not go away."

Modeled after a national organization with the same mission, Angel Gowns by Diane is based out of the apartment Dionne shares with her husband and their yellow lab, Angel,

“It makes me feel good to know we're helping families so they're not having to go through what my daughter had to go through. The pain does not go away.”

— DIANE DIONNE

Founder and executive director of Angel Gowns by Diane



Diane Dionne examines Alexandra Becker's wedding dress.

and includes a network of seamstresses throughout the greater Houston area. Donations have been flown in from as far away as Scotland, and thanks to multiple drop-off sites around the city, Dionne has managed to stuff two storage units full of dresses.

To date, the group has sewn and distributed more than 2,000 garments.

Working off patterns while trading tips and scraps, the volunteers meet frequently for “sew-ins.” Besides gowns, they also sew outfits with vests and caps for boys, as well as small square wraps for babies who are born too small for clothing. Every piece is left open in the back because the babies, for a heartbreaking list of reasons, are often difficult to dress.

The organization accepts donations of all kinds—any color, pattern or material, even fabric covered in the logo of a sports team. After all, this is the only opportunity these parents will ever have to pick an outfit for their child.

After final stitches and finishing touches, the gowns are donated to NICUs and labor and delivery units throughout the city, as well as to local funeral homes and, occasionally, to families who reach out to Dionne directly. Each garment from Angel Gowns by Diane is donated free of charge. The organization is also pursuing partnerships with local carpenters and funeral homes—to coordinate donated coffins and memorial services—in addition to photographers, florists, and anyone else whose services may prove helpful.

A rogue seamstress

I arrived at Lindy Bingham’s house on a Wednesday in early October to watch as her tailor’s shears sliced my wedding dress into pieces. Another Angel Gowns volunteer, Emily Rivaux, joined her at the sewing table.

Unlike the other seamstresses, Bingham, who has been sewing since she was 8 years old, eschews patterns, opting to design her outfits freestyle instead.

“I’m kind of a rogue,” Bingham explained, as she smoothed my dress onto her cutting mat and counted the grids—one, two, three, four—before carefully cutting off the bottom half.

“We’ll use this for one of the gowns so it has a little train,” she said, placing a long swatch of material aside.

(continued)





Top right: A tiny wrap sewn for babies born too small for gowns. Bottom: Lindy Bingham, a seamstress who volunteers with Angel Gowns by Diane, holds up one of the garments she created from Alexandra Becker's donated wedding dress.

In less than an hour, she sewed gathering stitches along the top of the swatch to create a waist. Then she set to work on the bodice, carefully preserving the knotted chiffon in the front. Soon she was cupping a strip of lace in her hands and molding it into a tiny puff sleeve.

As her sewing machine hummed, a doe-eyed black-and-white cocker spaniel lay under her feet.

"I'm allergic," Bingham said between snuffles. "But we'll keep her until we can find a suitable home. She's a good dog."

Bingham motioned for me to join her at the sewing table so she could show me what was left of the back of my dress. The zipper part, she said, would be perfect for a little bag. She likes to make these for the mothers so they have something tangible to take home, something that could hold a few photographs and sonograms.

"Have you heard of rainbow babies?" Bingham asked. "I didn't know about it until I started doing Angel Gowns, but it's after you've suffered a loss and then you are able to have a successful pregnancy. I'm actually a rainbow baby myself—my sister and I are."

Bingham explained that her mother's first baby passed away, and her parents had only planned to have two children.

"So had that first baby lived, I wouldn't have been here," she said. "Of course, I might have been here. Who knows ..."

In a sense, life itself could be considered a series of deaths. Relationships break up, friendships wane, moments become memories. We often find ourselves at the ends of chapters and milestones. People we love die. But there are rainbows after storms and people like Dionne and Bingham, who remind us that even in the midst of tragedy, there is love in this world.

'Yes, I had this baby'

On Nov. 2, Bingham and Rivaux entered the labor and delivery unit at Harris Health System's Ben Taub Hospital with what became of my dress in hand. In the end, it provided enough material for two gowns, each with a matching bonnet and keepsake bag.

“Losing a loved one is never easy, especially when it is a baby. There are a lot of emotions, and helping these moms cope with it as best they can and find some closure—that’s our goal.”

— GLORIA RAMIREZ-SCULLY, RN
Harris Health System’s Ben Taub Hospital

Gloria Ramirez-Scully, a registered nurse in the labor and delivery unit who is deeply involved in the bereavement program, accepted the donation on behalf of the hospital.

“It’s a very difficult subject,” Ramirez-Scully said. “Losing a loved one is never easy, especially when it is a baby. There are a lot of emotions, and helping these moms cope with it as best they can and find some closure—that’s our goal.”

There is nothing in the world that can alleviate the pain of a knotted umbilical cord or erase the silence of a sonogram unaccompanied by a heart-beat. Still, Ramirez-Scully and her team try. Angel Gowns tries. They dress the babies, they take pictures of the babies in the gowns, they try with the hope that, eventually, their efforts will ease the suffering of parents faced with an unspeakable loss.

“This is the only time they will ever be able to hold their baby or see their baby, and the gowns are special because they can take this picture back

home with them,” Ramirez-Scully said. “It helps them to cope and to say, ‘Yes, I had this baby and I carried it for however long. It did not survive, but this is a memory I have of this child who was a part of our lives but who didn’t get to grow up.’” ■

Angel Gowns by Diane welcomes donations of:

- wedding dresses
- bridesmaid dresses
- other formal wear
- monetary contributions to help offset the cost of sewing machines, storage, ribbons, shipping and other administrative expenses

FOR MORE INFORMATION:
angelgownsbydiane.org



Bingham arranges the completed gowns, bonnets and keepsake bags at Ben Taub Hospital.



POMONA

Pomona is the first LiveSmart master-planned community in the Houston area by Hillwood Communities, a Perot company. Featuring a relaxed, coastal atmosphere, this 1,000-acre community in the heart of the rapidly growing Highway 288 corridor makes it easy to live a happier, healthier lifestyle with a resort-style amenity center, miles of walking trails, sports fields, Fish Camp, Exploration Zone Park and an on-site Alvin ISD elementary school. And with 300 acres left untouched or as dedicated green space, Pomona is setting the standard for what it means to LiveSmart.

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JUDITH McFARLANE, RN, Dr.P.H., is a professor of nursing and the Parry Chair in Health Promotion and Disease Prevention at Texas Woman’s University. She speaks with Pulse about her passion for helping people, the roundabout way she began to study violence against women and a new smartphone app to help identify risk for abused women and their children.

Q | What motivated you to want to help people?

A | In his 1961 inaugural address, President John F. Kennedy said, “Ask not what your country can do for you, but what you can do for your country.” Two months later, he established the Peace Corps, and I knew it was going to be wonderful people who were going all over the world. I went right down to the Peace Corps office, but I was told I needed to get an education first. Well, I was 12 or 14 at that time, so that made sense! I went to college, got my nursing degree and went into the Peace Corps as a young nurse.

Q | What did you take away from your Peace Corps experience?

A | I wanted to see global nursing first-hand—culture and health—and how the two intersect. I was in Chile for a couple of years, and I got to learn some Spanish. I also met some inspiring people and developed a life-long interest in global health, especially in women’s health, because women are the central person for family and for community—the gateway for health.

Q | Where did you go after the Peace Corps?

A | When I came home, I worked at several universities, including the University of Arizona, the University of Georgia and the University of Florida. I ended up getting a Doctorate of Public Health from The University of Texas.

Q | How and why did you begin to study domestic abuse?

A | I got involved with domestic violence against women after being recruited to teach at Texas Woman’s University. At the time, we had one hour to teach domestic violence. This was 20 years ago, before we really appreciated the extent of the problem. I had a student ask me if women were abused when they were pregnant, and I said, ‘Yes.’ She asked how I knew, and I told her it was because I volunteered at a shelter. In fact, I was over at a shelter for abused women in Houston the night before and I had worked with two pregnant women. Then she asked me how often this happened, so we stopped class and went over to the library. At this time there were no word processors,

no Internet, so we had to look in the card catalog, and we didn't find any references, citations or books on how many pregnant women were abused. After that, the student said that she was going to graduate school and wanted to answer this question as part of her thesis. I always loved answering questions, so I worked with her, and we interviewed several hundred women in private hospitals and public health. We found that one in six women were assaulted or sexually abused during their pregnancy. That research went on to be published in the *Journal of the American Medical Association* in the early 1990s. It was a precedent-setting piece.

Q | Have you gotten any other questions from students over the years that inspired additional study and investigation?

A | A couple of years after helping my student study abuse during pregnancy, I had another student ask: 'What effect does abuse have on the baby?' Low birth weight is always a major issue in our country. If you start at a low birth weight, you are not likely to see your first birthday. You are also more likely to have long-term cognitive learning disabilities and chronic illnesses. I wanted to learn if women reporting abuse during their pregnancies because of stress or violence were more likely to not carry the baby to term or have a low-weight baby. We did another study in the Texas Medical Center of many hundreds of women, and, indeed, we found they were four times more likely to deliver a low-weight baby if they reported physical or sexual abuse during pregnancy. Not only is the pregnant woman affected by the abuse, but the child she bears is affected, too. So now we have two people to worry about.

Q | Tell us about your ongoing eight-year study of abused women—funded by the Houston Endowment—and the app you helped create called First Assessment Screening Tool (FAST).

A | I am leading the longest-ever study, in the sixth year of eight, to learn about what happens after women report abuse and reach out for help. What facilitates their healing and maximizes their children's return to normalcy, and what can we as health care providers do when we detect that women are abused? Are their children at risk? To help answer these questions, we created the First Assessment Screening Tool, or FAST app, that can be used on a smartphone. It is ready for use by front-line providers and health care providers when women report violence. It was recently released in app stores and is the first app of its type in the world.

Q | Once you have determined the risk level for a woman and her children, what kind of help can they get?

A | Once they disclose, we give them resources on safety and places for them to go. The FAST app can facilitate that by getting a specific level of information

about a woman's safety and exposure to violence and her children's safety and exposure. Children are affected differently depending on gender and age. Boys are more impacted than girls. We are not sure why, perhaps because their male role model is violent toward women, and they can't protect their mother. Frequently they try to help their mother and get hurt. We want to track how this affects school, work and mental and physical health, so we can give evidence-based intervention. The FAST app is helping us tailor those interventions.

Q | What are the typical challenges faced by women who are victims of domestic abuse?

A | Women are affected differently depending on the support system they have, resources and pre-existing conditions. Post-Traumatic Stress Disorder is a common aftermath of the violence. It makes you sleepless, edgy and lack focus, all of the factors you need to do a job, so it is hard for them to be employed and stay employed. Frequently, women go back to abusers. Not because they want to, but because they need them for shelter, food, and basic needs—to pay the utility bill. They are forced back into that dependency role because of the trauma, PTSD, the depression, anxiety or behavior problems of the children. They can't move forward on their own to be economically solvent. It becomes a vicious cycle that reinforces his power over her. Violence happens because of power and control, and he has more than she does. It continues because of isolation. He isolates her so he can have things his way. She becomes shameful and embarrassed by the situation. Plus, she is scared and frightened, because he has told her, if you try to leave, you won't see the children again. She stays because of fear and a perceived lack of options.

Q | What surprised you the most about your research?

A | I was surprised by the intergenerational impact. We didn't realize how much children are impacted by exposure to the violence, and the long-lasting impact of the violence. It may be interrupted, but the impact goes on for a long period. We have years and years of data to document and chronicle the impact. It is one of the most important health problems in the world. It affects one in three women in the world.

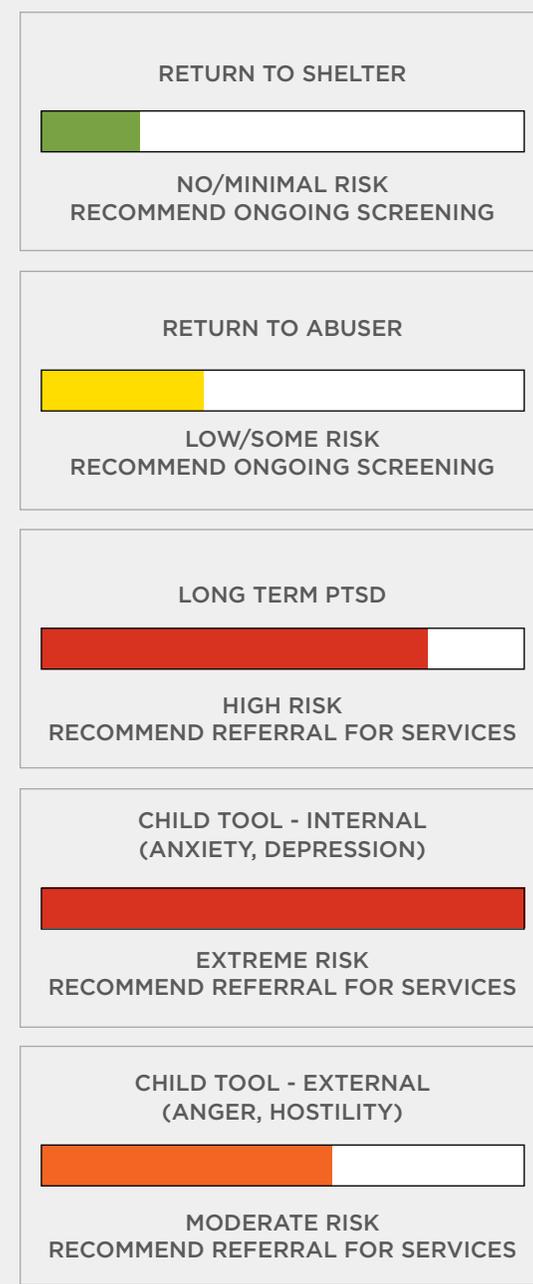
Q | Where are you in your research?

A | We work with 300 women and children. About 93 percent of them have been with us since we started six years ago. I have a dedicated team of 12 that is in the field every day, and I carry 10 percent of the sample. We talk to ladies who are homeless, but we follow them, have safe contact lists for each woman and permission to contact them to find their whereabouts once or twice a year. We have women in 27 states and six foreign countries, but the majority are here in the Houston metroplex.

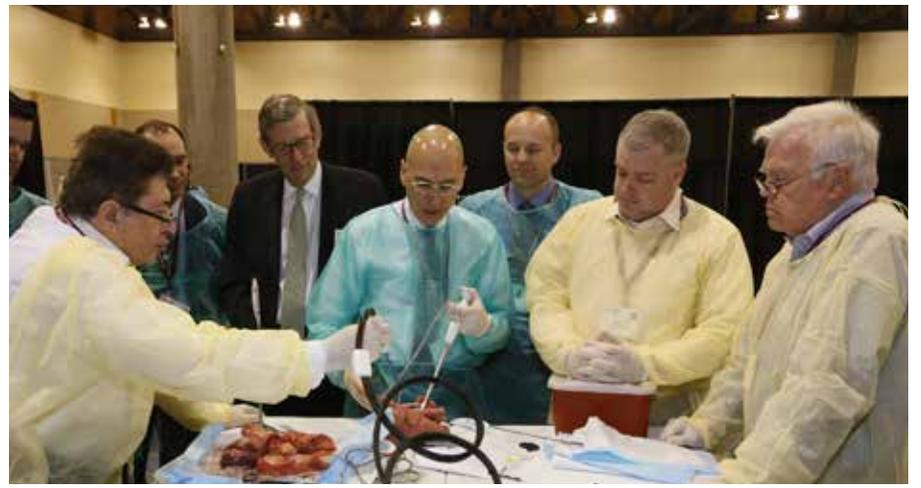
Q | What's next for you?

A | I definitely want to extend the eight-year study to a 16-year study. As I told Houston Endowment, we have children who entered at two years old who will be 10 when the study concludes. We need to follow them through adolescence to look at delinquency, school dropouts and find out how their exposure to violence impacts them in early adulthood, in dating. We only know a few answers, and we have to know more if we are going to do right by our youth. I would like to continue this story. What we all aim for in the end is policy. I want the legislature to have evidence for violence intervention programs, so we make laws that work best. You want your research to inform policy, and policy is made with evidence. ■

The free FAST app helps health care workers assess the safety of a woman and her children after abuse has been reported. A sample survey result is shown below:



— Judith McFarlane was interviewed by Pulse writer Christine Hall



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Bouncing Back

Ellie Ferraro thrives after surgery for a congenital heart defect

BY SHANLEY CHIEN



Ellie Ferraro, 7, was born with a congenital heart defect that required her to undergo open heart surgery when she was 7 months old. Now, with a fully repaired heart, she is bursting with energy.

Dana and Andrew Ferraro's Pearland home is filled with framed photographs of their three children.

Caden's growing collection of baseball awards and trophies populates the shelves in the family den. Ellie's ballet and gymnastics portraits sit on the living room mantel next to candid photographs of Brady, the youngest. Collages of baby pictures hang in the hallway, showing Caden and Brady as chubby babies, their wide, toothless grins pushing out plump, pink cheeks.

But there's something different about the photos of baby Ellie. She doesn't have the same healthy glow as her siblings.

When Dana was pregnant with Ellie, she and Andrew were brimming

with joy over the new addition to their growing family. But after a routine checkup during the first trimester, that excitement quickly turned into anxiety. A test revealed something unusual with the baby, and doctors suspected either Down syndrome or any number of congenital heart defects, including one that would leave Ellie with a short life expectancy.

"We had to go two weeks without really knowing what the issue was," Dana said. "There was that fear of not really knowing what was going to happen when she was born."

Minutes after her birth on May 5, 2009, Ellie was transferred to Texas Children's Hospital, where she was diagnosed with Tetralogy of Fallot

with pulmonary atresia, a critical congenital heart defect more commonly known as blue baby syndrome.

At 7 pounds 8 ounces, Ellie was born with a large, gaping hole between the two ventricles of her heart and a missing pulmonary valve that prevented the normal flow of oxygen. Because of the defect, her eyes, lips, fingers, toes and skin had turned blue. Infants affected by the condition can also suffer from "tet spells," during which they experience shortness of breath, become agitated and sometimes lose consciousness.

While Tetralogy of Fallot is rare, affecting two in 10,000 children, it is the most common complex congenital heart defect and its treatment has a

relatively long history. The first total repair of a heart with this condition was done in 1954. In an average year, Texas Children's treats between 25 and 40 children with variations of Tetralogy of Fallot.

"It's really the poster child condition," said Ellie's surgeon, Charles D. Fraser, Jr., M.D., surgeon-in-chief and chief of congenital heart surgery at Texas Children's.

"In the current era, this is one of those categories of conditions that we know the most about. We ... have now a cumulative 60-plus years of experience and that's very, very unusual. It's pretty much the only condition in heart surgery that we can say that."

(continued)



In addition to gymnastics and ballet, Ellie enjoys reading. She has a growing collection of books that she keeps next to her bed.

Just one week after Ellie was born, Fraser and his team placed a Blalock-Taussig shunt in her chest to direct blood flow to her lungs and allow her to breathe properly. The shunt provided a temporary solution to a life-long condition, and it bought Ellie enough time for her organs to grow before her second surgery.

In December 2009, 7-month-old Ellie was brought back in for her second procedure. Fraser and his team performed open heart surgery to fully repair the hole in her heart by placing an artificial valve—built from the jugular vein of a cow—onto a small conduit to bridge the connection between her heart and lungs.

“When your tiny daughter is about to be put on the operating table at seven months, and her heart is about to be intentionally stopped so it can be fixed, it is then that you have your first real talk with God,” Andrew said. “On the morning of her open heart surgery, we had family and friends all over the country praying for us. Even though we knew the risks and there were no guarantees, I felt calm and at peace.”

After the six-hour surgery, Ellie was taken to the cardiovascular intensive care unit, where she recovered for three days. She was discharged six days later. Fraser and his team had successfully repaired her heart and lungs, allowing her body to circulate oxygen normally. For the first time in Ellie’s life, her bluish skin transformed into a healthy pink.

“We didn’t realize how blue she was due to the lower oxygen levels until we saw her after the fact,” Andrew said. “Doctors always would say she looks kind of blue, but we didn’t really notice it because we had seen her every day of her life for seven months.”

Today, Ellie is 7 years old and overflowing with exuberance. She knows the six-inch scar down the middle of her chest is because of her “special heart” and continues to thrive in spite of it.

“She is vibrant, full of life and is one of the most caring and compassionate children I have ever been around,” Dana said. “Even though her heart condition is always in the back of our mind, we don’t let it define her.”

Thanks to the successful open heart surgery, Ellie doesn’t take any medication and is not restricted in what she can do, mentally or physically. She often practices her ballet and gymnastics skills—flipping and jumping around the house as if it’s her primary mode of transportation.

“Watch me do a cartwheel!” she’ll say, as she executes the move in the middle of the living room

with acrobatic precision.

The artificial valve and conduit will circulate oxygen throughout Ellie’s body to allow her to stay active, but they must be replaced when she outgrows them later on in life. Adults with Tetralogy of Fallot live well into adulthood with little to no complications, but patients like Ellie will continue to need physicians who have been trained to treat congenital heart defects.

At the upcoming Society of Thoracic Surgeons annual meeting—to be held in Houston from Jan. 21-25—Fraser and his colleagues will discuss the qualifications physicians need to treat patients like Ellie, as well as the benefits of performing procedures at children’s hospitals.

“It’s counterintuitive, but that’s where a majority of the expertise lives,” Fraser said. “We have an extraordinary facility at Texas Children’s and an extraordinary team of people who really surround these children when they’re here.” ■

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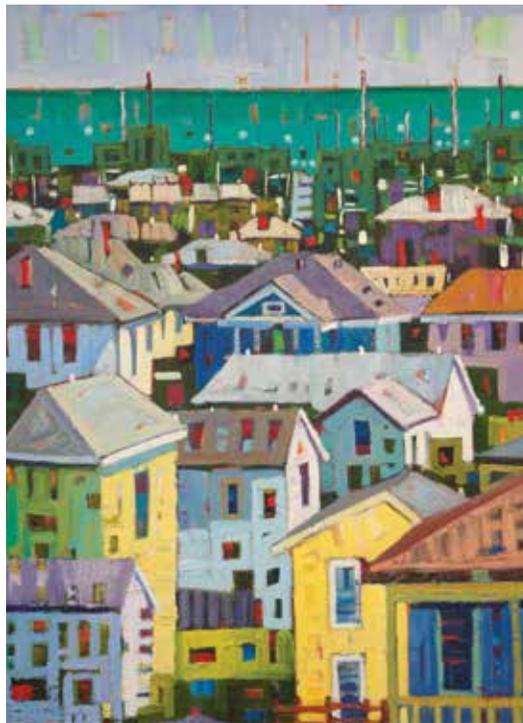
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CURATED

The intersection of ARTS and MEDICINE

By Britni N. Riley



Samples from more than 1,000 pieces of art in the Jennie Sealy Hospital.

As you walk into the Jennie Sealy Hospital in Galveston, it is almost as if the beach comes with you. Natural light pours into every hallway, and the floors sparkle like sand glistening in the sun. Sweeping views of Galveston Bay or the Gulf of Mexico are visible from the windows of all 310 patient rooms.

And nearly every wall in the 765,000-square-foot hospital is adorned with Galveston-themed art, bringing all the city has to offer inside for patients to enjoy.

Donna K. Sollenberger oversaw much of the building and design of the new hospital, part of The University of Texas Medical Branch at Galveston (UTMB), which opened in April.

“There are 12 principles of evidence-based design for hospitals that have been researched and found to improve the healing environment,” said Sollenberger, executive vice president and CEO of UTMB Health System. “One of those is art and another is natural light.”

Sollenberger and David L. Callender, M.D., president of UTMB, decided that the hospital should embrace and incorporate the look and feel of Galveston’s beach community.

Partnering with H. Marion Art Consultants, Inc., they created a collection of more than 1,000 pieces of art—half by artists in the Houston and Galveston areas. Because the hospital was working within a strict budget, few pieces are original. Instead, the consultants used a high-tech scanner to create copies of original works—with the artists’ approval, of course—and applied them to canvas, metal and other surfaces. Images and installations featuring sand dollars, sail boats, palm trees, photographs of the beach and Pleasure Pier are all part of the vast collection.

“One of the artists that is represented in some of the patient rooms and family areas is a retired nurse from UTMB,” Sollenberger said. “She was so honored to be part of this project and share her work with patients, staff, nurses and doctors at the Jennie Sealy Hospital.” ■

Holidays in the Hospital

A pediatric chaplain reflects on the joys and grace of caregiving

AN ESSAY BY JOEL BLEST

On a fall day a few years ago, I received an urgent chaplaincy call to labor and delivery for a mom who was on the brink of giving birth. Our labor and delivery department sends thousands of parents home each year with healthy bundles of joy, but our hospital also takes care of some of the most severe high-risk pregnancies. That means our chaplaincy team spends a lot of time in labor and delivery offering care and support.

Often, these calls are for mothers who have experienced a stillbirth. We offer empathic support and a “naming ceremony,” blessing the name the parents have lovingly chosen for their child.

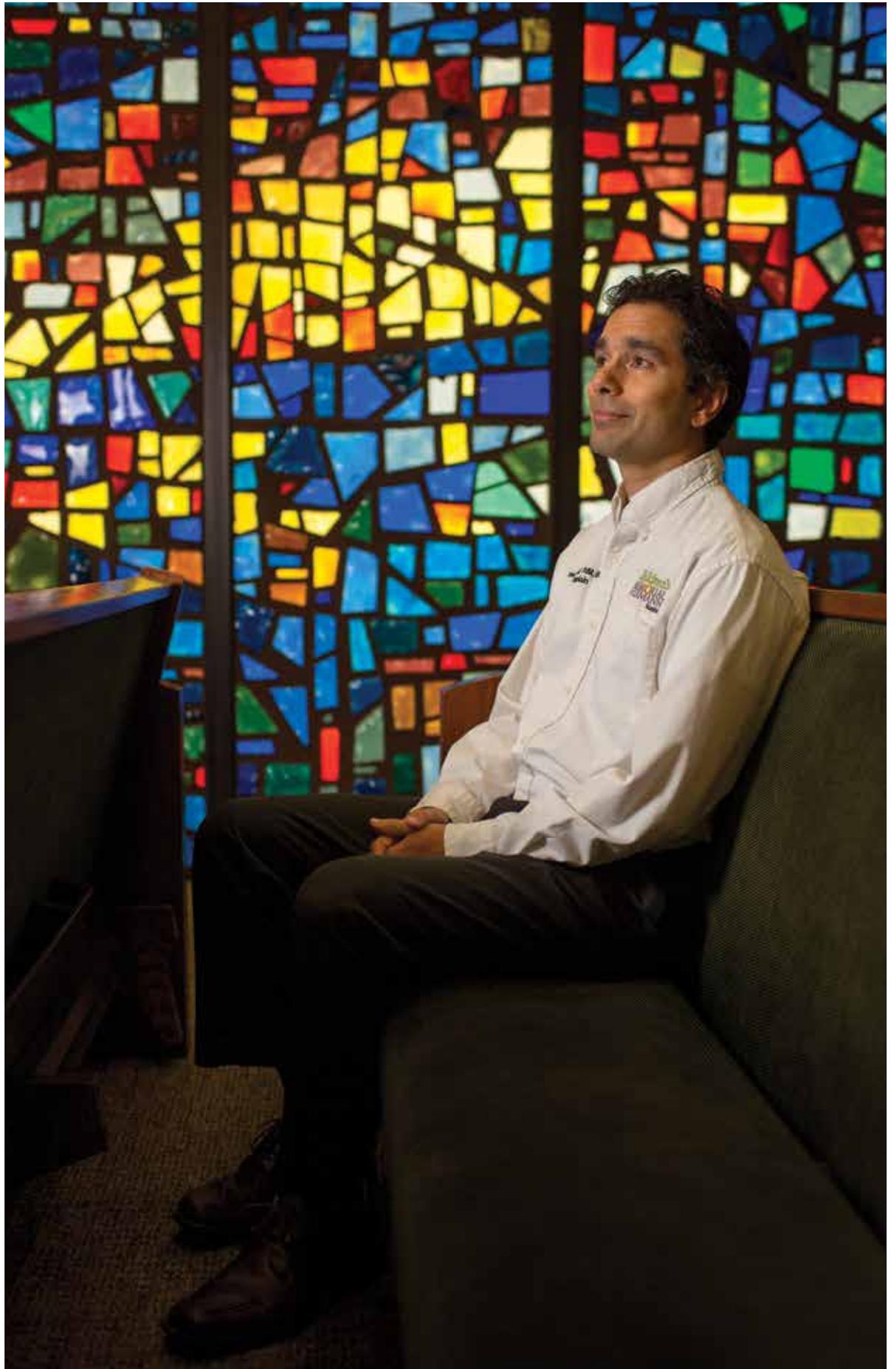
But the situation a few years ago was unique. I had met this family before, and I knew I needed to hurry. The parents had shared with me that while they did not know for certain what would happen to their baby, they knew the situation would be dire because of a pre-diagnosed condition. It was important to them that the baby be baptized, if at all possible.

As I made my way to the unit, I made sure I had a seashell, which we use to baptize babies and present to moms as a memento to cherish. For a male chaplain like myself, these bedside baptisms can feel somewhat awkward, as if we are imposing on a woman who has just given birth. At times, the medical team is still working with the mom. When I arrived to perform this particular baptism, I knew it was a privilege to be able to offer something so meaningful to the family. Not long after the baptism, the baby was whisked away to the NICU to begin a journey that would stretch through much of the holiday season.

The holidays are a joyous time for many families, but children’s hospitals find themselves stretched between two extremes. On the one hand, they’re cheery places. At Children’s Memorial Hermann, staff members always create a bright and cheery environment for patients and families, especially during the holidays. We are blessed to have many organizations from the community give generously of their time and resources to our patients and families.

On the other hand, children’s hospitals during the holidays can be sad places where hardship continues for the families we serve. In our NICU, many families have no other choice but to stay here for weeks or even months as their babies fight to grow and thrive. Some families set their sights on being home by Thanksgiving or Christmas, only to see those hopes vanish due to unrealistic expectations or unforeseen setbacks. That’s always difficult news for everyone to accept.

Joel Blest in the chapel at Children’s Memorial Hermann Hospital.



For caregivers like myself, there's often a vacillation between feelings of guilt and gratitude as we head home at the end of our shifts to spend time with our healthy families, happily celebrating together. When I consider what some of our patient families endure, when I hear their stories and witness their pain, I'm challenged within to be more patient—even when I become frustrated with some of the normal stresses that occur this time of year.

When I think back on that tiny baby I baptized in the NICU, I remember how tough the journey was for that family. I remember how, as the holiday season arrived, the baby began experiencing serious complications. I remember, with a heavy heart, how the family ran out of options and had to consider withdrawal of treatments. The child's mother wrestled with deep spiritual questions: *Where is God? Why does God allow evil and suffering to exist? Why would God do this to my son? Why would God take my child?*

As a pediatric chaplain, my job is to help normalize the feelings families have in these situations. I encourage them to express their feelings honestly to God, while affirming God's love and empathy with the pain they are experiencing. I believe that just as parents are present with their child in suffering, God is present with the patient and family in their mutual suffering. Though I could not fathom the pain the baby's mom felt and why God was not intervening to heal, I discussed our shared belief in the Incarnation—God's

“In our NICU, many families have no other choice but to stay here for weeks or even months as their babies fight to grow and thrive. Some families set their sights on being home by Thanksgiving or Christmas, only to see those hopes vanish due to unrealistic expectations or unforeseen setbacks.”

choice to enter into the darkness of this broken world and to join in our suffering. I told her that God could empathize with the pain she felt.

Her baby would not live to celebrate his first Christmas.

No matter the time of year, our entire medical team truly feels for families like this. And when we see a child come in during the holidays with a non-survivable illness or injury, there's an added layer of grief. When a death occurs, we not only grieve that the mom and dad have lost their child, but we wonder: *Will they relive this again next year? Will they ever be able to experience the holidays like they did before this loss?*

As a father of two children myself, I often wonder how I'd be able to face what these parents are facing. How is it that my kids are healthy? Again, guilt and gratitude. Unexplainable grace. Unfair grace? I sometimes feel like a child on Christmas morning, running

in to find a big gift with my name on it under the tree, only to notice my little sister in tears, realizing there's nothing under the tree for her.

Most days when I leave the hospital, I see lines of cars and families huddled along the sidewalks. And as I head home for the holidays, I'm aware that my colleagues will continue to minister to the needs of these families and the loved ones they've entrusted to our care. This time of year especially, we must look past the tinsel and lights to what is most meaningful: Love and faith, in a world where there are no guarantees. ■

Joel Blest is a pediatric chaplain at Children's Memorial Hermann Hospital.

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A Little Extra Love

Elsa spends her days with young patients at Texas Children's Hospital

BY BRITNI N. RILEY



Brody Zacharias visits with Elsa in his room at Texas Children's Hospital. Top right: Elsa greets a patient in the hallway. Bottom right: Elsa wears her badge to work.

As she trots through the hallways of Texas Children's Hospital, patients, nurses, doctors and other staff stop to greet her. Wearing her green vest and official hospital badge, Elsa makes her rounds to comfort those who need her most.

A professionally-trained therapy dog, Elsa is a 19-month old golden

retriever and full-time employee at Texas Children's. She works an eight-hour day, complete with breaks for lunch, bathroom and play time. Weekday mornings at 8:30 a.m., she and Sarah Herbek—her handler and a child life specialist—review patient consults to decide which patients they should visit. Their goal is to see eight children

a day and spend quality time with each one.

"Each morning we go through the requests we get from nurses, clinicians and doctors to visit patients," Herbek said. "We determine who to see and when we need to see them. Right now, our highest priority patients are in rehab. They have been in the hospital for a long time; they have been through a lot."

Elsa and Sarah have been spending time with Brody, an 8-year-old boy from Splendor, Texas.

"We have been in the hospital for about nine days now," said Elizabeth Zacharias, Brody's mother, on a recent

afternoon. "Originally, we thought Brody just had an earache, but it spread and we traveled here from Splendor because he needed to have surgery."

When Elsa walked into Brody's room, he jumped out of bed to give her a big hug, pulling his set of IV's behind him. Although they had only met a few times before, Elsa tenderly greeted Brody as he hugged her. Once Brody got back into his bed, Elsa jumped up beside him and put her paw on his lap.

"I really like when she comes to visit me because she is a really good dog and she makes me feel better," Brody said.

Before coming to Houston, Elsa

“I really like when she comes to visit me because she is a really good dog and she makes me feel better.”

— BRODY ZACHARIAS
A patient at Texas Children's Hospital

“As a child life specialist, it is my job to work with patients who are sometimes having a very hard time coping. When I have Elsa with me, it is easier to break the ice and build rapport with patients.”

— SARAH HERBEK

Elsa's handler and a child life specialist at Texas Children's Hospital



Elsa nuzzles her handler, Sarah Herbek. Far right: Elsa at work in the halls of Texas Children's Hospital.

trained with Canine Assistants, an Atlanta non-profit that has matched more than 1,500 service dogs with individuals and hospitals. The dog program at Texas Children's, made possible by a donor family and still in its infancy, uses animal-assisted therapy to provide support to patients who may be having trouble coping with hospital stays, a new diagnosis or other traumatic experiences.

Elsa visits patients on designated inpatient units, including inpatient rehab, and was recently granted access to the pediatric intensive care unit (PICU). The demand for her to drop in

on patients has been much higher than anticipated, but because of infection risks, not all patients are allowed visits.

“We get a lot of requests from patients on the pulmonary floor and the hematology/oncology floor, and it is really hard to tell them no,” Herbek said. “My hope is that one day we are able to visit them. We are very careful about keeping Elsa clean. She is groomed weekly and I wipe her paws off after I take her outside. We also ask that our patients put a sheet down on their beds when she comes to visit and sanitize their hands before and after they play with her to reduce their risk of infection.”

In the short amount of time Elsa has been working at Texas Children's, she has made a huge impact. She helps calm patients down while they're getting blood work. She coaxes them out of bed to take her for a walk. She comforts them when they need a little extra love.

“As a child life specialist, it is my job to work with patients who are sometimes having a very hard time coping,” Herbek said. “When I have Elsa with me, it is easier to break the ice and build rapport with patients. It is easier to just make them smile. I don't have to work as hard to do all of that because I have this awesome dog who comes in the

room with me and we have this instant connection with the patient.”

Brody was in low spirits when he first met Elsa and Herbek. He had just been diagnosed with mastoiditis, an inflammation of the mucosal lining of the mastoid bone and mastoid air cell system. It is usually the result of an infection that extends to the air cells of the skull behind the ear.

“We met Brody when he was in the PICU,” Herbek said. “He didn't want to get up and he felt terrible. When he saw Elsa, he picked his head up and smiled for the first time since his surgery.” ■

Regenerating Heart Cells

BY CHRISTINE HALL

Cardiovascular disease is the leading cause of death in the United States, responsible for one in every four deaths annually. Factor in a five-year survival rate after a heart attack, and that makes the effects of cardiovascular disease worse than most cancers.

One major reason for these statistics is that the human heart is unable to repair itself effectively after injury. But a research team at the University of Houston is trying to change that.

Yu Liu, Ph.D., an assistant professor of biochemistry, and colleague Robert Schwartz, Ph.D., Cullen Distinguished Professor of Biochemistry and the head of the Stem Cell Engineering Laboratory at Texas Heart Institute, have devised a new way to help heart muscle cells regenerate.

As people age, the number of heart muscle cells decreases. When someone has a heart attack, even more cells are lost, only to be replaced by the thickening and scarring of connective tissue, a process known as fibrosis. The atrophy of that connective tissue leads to the loss of the heart's pump function.

"One week after birth, the heart makes fewer and fewer myocytes (muscle cells), so if there is a cardiac injury, it is not easy for the heart to replace them," said Schwartz, who pioneered the process of fashioning heart muscle cells from human fibroblasts in 2012. The process has been widely adopted.

Hoping to counteract that natural drop-off in heart muscle cell production, Liu, Schwartz and their team have identified cell clusters that promote

cardiac regeneration.

The team pinpointed a small ribonucleic acid (RNA) species, called microRNAs, that act early in the multi-step heart formation process, Liu said. MicroRNAs are chains of 21 nucleotides that each contain a nitrogenous base, a ribose sugar and a phosphate.

"They are easier to deliver into human bodies, and thus have a shorter path to clinical use," Liu said. "Also, using microRNAs may allow us to take non-cardiogenic cells and reprogram them to be cardiac cells that can repair damage to the heart."

The team focused on identifying microRNAs that are critical in turning on cardiac development, in part by suppressing other cell clusters destined for a different area of development. What is truly novel about the cell clusters they identified is that these microRNAs are able to convert stem cells into beating cardiac muscle cells, Schwartz said.

"If we can put in reprogrammed cells to repair the heart—by adding cardiac mass, good rhythmic beating and electrical conduction—they may replace the

cells that are damaged," he added. "It's new agents that didn't exist before."

The team's findings were published in a recent edition of *Proceedings of the National Academy of Sciences USA*. Additional UH collaborators on the study included Preethi Gunaratne, associate professor of biochemistry and a genome sequencing pioneer in the field of microRNA research, and Xiaopeng Shen, a postdoctoral fellow in Liu's lab and first author of the article.

Now, the researchers are taking their project out of this world. They are set to send off their cells to the International Space Station as part of a project with NASA's Center for the Advancement of Science in Space. Schwartz wants to explore how the unique environment in space can assist in creating heart muscle cells from fat stem cells.

Supported by multiple grants from the American Heart Association, Liu hopes to be able to use these microRNAs to treat human heart attacks and subsequent heart failures within the next five to 10 years. ■

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HOW TMC EMPLOYEES SPEND THEIR SPARE TIME

NAME: **Randall Wolf, M.D.**

OCCUPATION: **Cardiothoracic and vascular surgeon affiliated with Memorial Hermann Memorial City Medical Center and The University of Texas Health Science Center at Houston**

INTEREST: **Magic**

Randall Wolf grew up on a farm in Indiana, where his family raised horses and cattle. When he was 10 years old, he meandered into his grandmother's basement—looking for a place to play away from the adults—and stumbled upon a box that belonged to his mother's brother, a physician. Curious, he opened the box and discovered that it was filled with playing cards and magical knick-knacks.

Wolf was hooked. He used all the money he earned from cleaning the barn three times a week to purchase small magic toys and illusions. Every day for six weeks he checked the mailbox, eager for the items to arrive.

A few years later, Wolf came across another box filled with magical curio in his other grandmother's basement. This box belonged to his father's brother and, like his maternal uncle, this uncle was also a magician and a physician.

"It was pure serendipity," said Dr. Wolf, now 63.

The fine motor skills Wolf cultivated as an amateur magician have served him well in medicine. He was the first heart surgeon in North America to perform cardiac surgery using the Da Vinci robot. He has published more than 100 peer-reviewed articles and lectured as a visiting professor in 18 countries. And he invented the Wolf Mini Maze, a minimally invasive treatment to correct chronic irregular heartbeats caused by atrial fibrillation. He has performed the innovative procedure on more than 1,000 patients and trained 600 heart surgeons worldwide in the technique.

His credentials as a magician are also flush.

Wolf trained at the Las Vegas-based Magic & Mystery School, where he mastered sleight-of-hand card tricks, rabbit and top hat illusions and the levitation of objects. A longtime member of the Academy of Magical Arts at The Magic Castle, Wolf has worked with magician David Cooperfield and famed comedy and magic duo Penn & Teller.

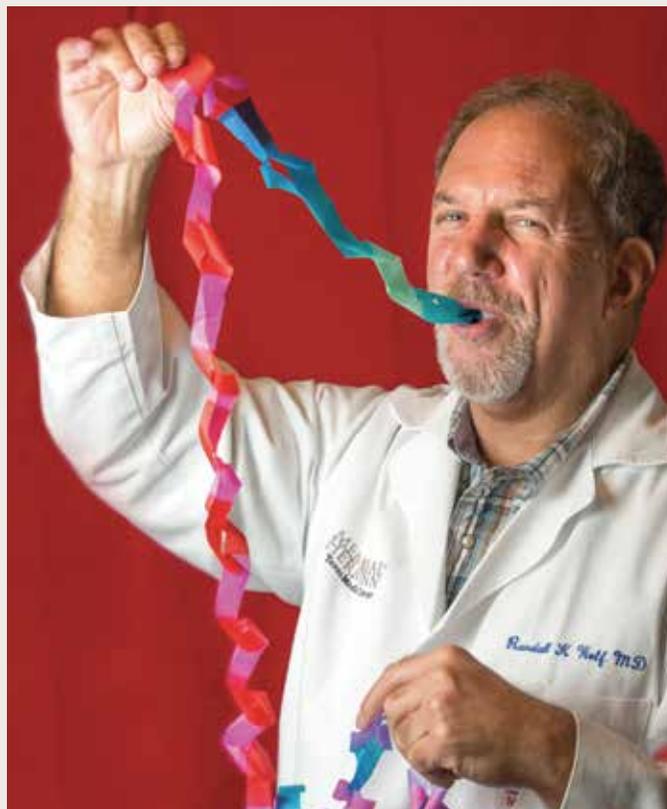
He used to teach a "Magic and Medicine" course at the magic school and often uses magic as an opener for his international heart surgery lectures. Not only is magic a reliable way to capture people's attention, he explained, but it also taught him to stay focused on his audience and keep the crowd engaged.

"I've seen physicians give talks where they look at their slides and they never even look at the audience," Wolf said. "Everybody could leave and they wouldn't know. Basic magic teaches you to have a situational awareness and to know where everybody is in the room. You connect with them, you have eye contact, you notice people who aren't interested and you decide whether you're going to try to attract them or not."

Magic helps Wolf create a different dynamic with patients.

"What we try to do as physicians is to make people feel better," Wolf said. "People come to us because they have some problem and we try to help them solve it, but our goal is to make them happy. Magic does that, too. When it's demonstrated to patients, they feel kind of a bond with you, like they know you not just as a physician, but also as a magician. It's a different level of togetherness."

While Wolf can perform between 250 and 300 magic tricks, his go-to



ON THE SIDE

BY SHANLEY CHIEN

illusion for patients is a simple card trick. He often carries a pack of playing cards in his white coat to entertain patients by their bedsides. It's a small gesture, but one he said can make a difference in patient care.

"In a place like the Texas Medical Center—the largest medical center in the world—there's room for magic," Wolf said. "It could make patients happy on another level, besides just getting better from their illness. It heals." ■

[1] FORMER PRESIDENT GEORGE H.W. BUSH AND VICE PRESIDENT JOE BIDEN share a moment at the 75th anniversary gala for MD Anderson Cancer Center.

(Credit: Nick de la Torre/FCS Photos)



1

[2] UTHealth Constellation Gala chairs Phil Ferguson and Kathy O'Neil, honoree Kathrine G. McGovern, and UTHealth President Dr. Giuseppe N. Colasurdo. *(Credit: Michelle Watson/CatchLight Group, LLC)*



2

[3] First Lady of South Africa, Bongekile Ngema Zuma, presents **ROBERT C. ROBBINS, M.D.**, president and CEO of the Texas Medical Center, with a Global Diabetes Foundation pin, in South Africa, as Houston Mayor **SYLVESTER TURNER** looks on.



3

[4] Winners of the “worst pants” competition at the 19th annual **BAD PANTS OPEN**. More than 360 golfers teed off at the event, which raised \$375,000 for premature and critically ill babies at Texas Children’s Newborn Center.*



4

[5] MARIA E. FERNANDEZ, PH.D., director of the Center for Health Promotion and Prevention Research at UTHealth School of Public Health, received the Distinguished Alumni Award from the University of Maryland School of Public Health.

[6] LARRY H. HOLLIER JR., M.D., associate surgeon-in-chief for clinical affairs and chief of plastic surgery at Texas Children’s Hospital, was recognized by Press Ganey with the 2016 Physician of the Year award.

[7] IMAD JARJOUR, M.D., associate professor of pediatrics at Baylor College of Medicine, was recently named a Fellow of the American Autonomic Society.

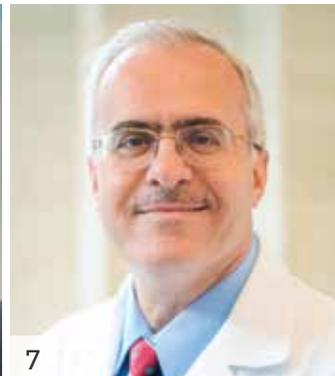
[8] ANDREA PREISINGER has been promoted to vice president of human resources at The Menninger Clinic.



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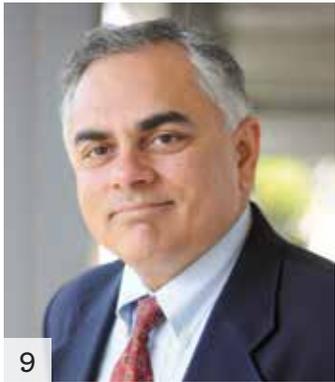


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*Credit: Courtesy photo



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[9] **ASIM SHAH, M.D.**, chief of psychiatry for Ben Taub Hospital and a professor at Baylor College of Medicine’s Menninger Department of Psychiatry and Behavioral Sciences, was appointed the department’s inaugural vice chair for community psychiatry.

[10] **JOAN SHOOK, M.D.**, professor of pediatrics – emergency medicine at Baylor College of Medicine, received the 2016 Jim Seidel Distinguished Service Award from the American Academy of Pediatrics Section on Emergency Medicine.

[11] **DONNA R. SMITH** was recently named the managing director of LifeGift’s Fort Worth region.

[12] **DORIS TAYLOR, PH.D.**, director of Regenerative Medicine Research at Texas Heart Institute, was the 2016 recipient of the American Association of State Colleges and Universities’ Distinguished Alumnus Award.

[13] **JOELLE AND MITCH DERRICK**, gala honorees, with their daughter at BOO BALL: The Lost Lagoon, benefiting Ronald McDonald House Houston. The gala drew 1,200 guests and raised nearly \$1.3 million.

(Credit: alexandersportraits.com)



13



14

[14] **THE 2016 HOUSTON HEART WALK** drew nearly 28,000 people and several four-legged participants to the Texas Medical Center campus to promote physical activity and healthy living. Proceeds in excess of \$2 million went to the American Heart Association, which supports research, education, and various programs to fight heart disease and stroke.

[15] An international team from Lamborghini, led by CEO Stefano Domenicali, fourth from left, visited with Houston Methodist Research Institute leadership and researchers, led by **MAURO FERRARI, PH.D.**, executive vice president of Houston Methodist and the president and CEO of Houston Methodist Research Institute, fifth from left.*



15

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December 2016

8 ***Gone with the Stars: When Organ Music Meets Outer Space***
Thursday, 7:30 p.m.
Houston Methodist Research Institute
Bookout Auditorium
6670 Bertner Ave.
Register: december8thconcert.org
jcharmartz@houstonmethodist.org
713-441-4048

.....

**James T. Willerson, M.D.,
Cardiovascular Seminar: "Monocytes
and Macrophages in Cardiovascular
Disease," featuring Matthias
Nahrendorf, M.D., Ph.D.,
Harvard Medical School**
Thursday, 4 p.m.
Texas Heart Institute
6770 Bertner Ave.
vsweed@texasheart.org
832-355-9144



The Houston Symphony performs at Houston Methodist Hospital. Credit: Courtesy photo

13 ***Houston Symphony Holiday Concert***
Tuesday, 5 – 6 p.m.
Houston Methodist Hospital
Crain Garden
6565 Fannin St.
Free and open to the public
cacobb@houstonmethodist.org
713-441-4048

14 ***Book Signing with Joel Dimsdale, M.D.,
author of "Anatomy of Malice: The
Enigma of the Nazi War Criminals"***
Wednesday, 6:30 – 8 p.m.
Holocaust Museum Houston
Albert and Ethel Herzstein Theater
5401 Caroline St.
Free; registration required at hmh.org
info@hmh.org
713-942-8000

January 2017

14 ***Houston Super Bowl Host Committee's
Touchdown Tour, Final Stop***
Saturday, 10 a.m. – 2 p.m.
Alief Community Park
11903 Bellaire Blvd.
Free and open to the public
jkelly@housuperbowl.com
832-213-5116

28 ***Opening of Super Bowl LIVE***
Starts Saturday, runs through Feb. 5
Discovery Green Park
1500 McKinney St.
Free and open to the public
jkelly@housuperbowl.com
832-213-5116

17 ***"Let Me Down Easy," a performance
by Anna Deavere Smith, presented by
Baylor College of Medicine Center for
Medical Ethics and Health Policy***
Tuesday, 7 p.m.; dinner at 8:30 p.m.
Wortham Center, Cullen Theater
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