

TMC | PULSE

NEWS OF THE TEXAS MEDICAL CENTER — VOL. 6 / NO. 8 — SEPTEMBER 2019

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MEET YOUR NEW Commute

How Two TMC Employees Saved Thousands by Joining a Vanpool

Thirteen years ago, Patricia discovered Houston METRO's regional vanpool program – METRO STAR Vanpool. Before then, she was driving from Crosby to the Texas Medical Center every day – twice a day. As if the stress from sitting in bumper-to-bumper traffic isn't enough, the cost of parking, tolls, and car maintenance can quickly turn a commute into the worst part of a person's job. Patricia had to fill up on gas at least 3 times a week. It made her feel like she was paying to go to work.

It was when she joined the vanpool that Patricia met Kathleen Henshaw. Thirteen years later, Patricia and Kathleen continue to share a ride to work, and a wonderful friendship. They are a shining example of how vanpooling brings people together and sometimes even creates life-long friendships. Patricia and Kathleen are part of an 8-person vanpool and share a 45-minute commute from Humble to the TMC. "It's really interactive," says Kathleen, "everybody knows each other. The newest person on our van has been with us almost a year."

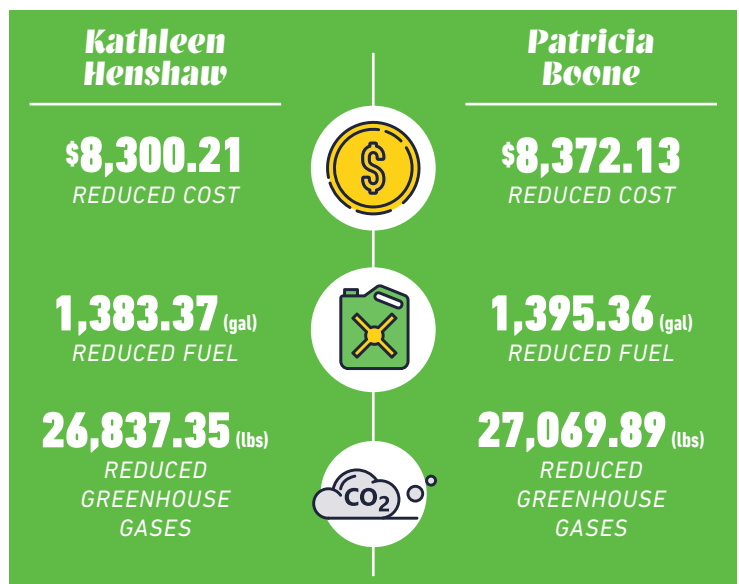
The TMC currently has 120 vanpool groups consisting of a total of 1,018 employees commuting from all over the Greater Houston area. "A vanpool route can end and/or start anywhere in the 8-county region," says Dezra Nauls, commuter services program manager at METRO. "We service Harris, Waller, Montgomery, Brazoria, Galveston, Fort Bend, Liberty, and Chambers County." METRO STAR has been Houston's vanpool provider for over 20 years. Through this program, thousands of commuters have been able to save time, money,

and reduce stress on their daily commute.

Taking the first step towards joining a vanpool is easy. Once a person registers, METRO STAR matches people with other commuters who live and work in similar areas with its ride-matching system. The cost is based on commute distance, van size and the number of commuters. The fare covers maintenance, fuel, tolls, insurance, roadside assistance and three emergency rides home per year.

Both women said they were compelled to give vanpool a try because of the potential savings, so we conducted a cost savings analysis on Patricia's and Kathleen's commutes to see how much money vanpooling saves them. Since 2016, both women have saved over \$8,000 each. Kathleen repurposes her savings towards the things that matter most to her while enjoying the benefits of not driving her car to work every day. "The savings mean more money in the family budget, less fear of breaking down on the road, less stress when I arrive at work and, of course, meeting new friends and colleagues from other UT locations."

COMMUTE SAVINGS SUMMARY SINCE 2016



Besides saving money, sharing a ride to work in a vanpool has also enhanced Kathleen's and Patricia's personal lives. "I can catch up on the news, nap, or relax and unwind from my day so when I get home to my kids I can be a better mom," says Kathleen. Patricia likes that she can pay bills, read, or plan things like family reunions during her commute, "Everyone on the van really respects your time. We've learned each other's personalities. So if we see someone reading or working, everyone tries to be quiet."

Vanpooling is a great way to improve your quality of life, meet new people, and help improve the region's traffic conditions and air quality. Commuters who are tired of driving in traffic every day and are ready to try their new commute can visit STARVanpool.com to register or call 713-224-7433 for more information.





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2019-20**



Mark Mulligan/Houston Chronicle. Used with permission.

WILLIAM F. McKEON

President and Chief Executive Officer, Texas Medical Center

As president and CEO of the Texas Medical Center, I interact every day with other leaders from the institutions that comprise the largest medical city in the world. Because I work with such a diverse group of constituents—more than 60 member institutions, representing more than 100,000 employees—I often reflect on an experience I had nearly a decade ago that influences my approach today.

The Harvard University Program on Negotiation taught me important lessons that help me to understand the unique needs of each of our members. Before the three-day program, participants prepare for roles they'll play in simulated negotiations. The exercise forces everyone to take a position and argue for it, regardless of their personal convictions.

For example, one person might represent an offshore drilling company while another makes the case for environmental protection. As you might imagine, the facilitators encouraged us to defend our positions vigorously. But we soon saw how that passion led us to move swiftly away from any chance at reaching a mutually beneficial outcome. We became entrenched, and our own opinions became obstacles to progress. I learned a great deal about myself and how to better engage in productive negotiations.

The lessons I learned long ago continue to help me better understand the Texas Medical Center institutions I work with in this unique ecosystem. Some CEOs and leadership teams are naturally collegial, while others may view collaboration as dilutive or contributing to a loss of full control. Fortunately, the Harvard program identified these different styles of negotiation, and I often find myself recognizing them in the course of a discussion.

So what's the key to negotiating? The answer seems simple, but it requires a great deal of commitment and much more time than a three-day program. My life experiences have taught me that it is most important to patiently build meaningful, trusting relationships over time. In both our personal and professional lives, it is the richness of these relationships that determines our happiness and success. I recognize that this seems obvious, but so often I observe people either intentionally or unintentionally creating barriers that obstruct the path to forming sound and productive relationships.

I continue to learn every day. Some of the most challenging situations I face are often the most exciting and satisfying to work through. The journey continues as I learn more about myself and the incredibly diverse talent at all levels of the Texas Medical Center.

A handwritten signature in black ink that reads "William F. McKeon". The signature is fluid and cursive, with a large, stylized "M" and "K".

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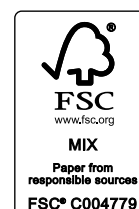


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ON THIS PAGE: Former elite cyclist Sinead Miller leads a medical device startup, p. 16

ON THE COVER: Ted Adderly prepares to fish near his home in Missouri City, Texas.

Remembering Chernobyl

Two physicians flew to Moscow in 1986 to treat patients exposed to radiation

BY SHANLEY PIERCE

HBO and Sky Atlantic's recent miniseries, "Chernobyl," dramatizes the nuclear accident that took place on April 26, 1986 in the former Soviet Union. But the medical aftermath of that event was part of a real-life drama for two Texas Medical Center doctors who traveled to Moscow to treat first responders exposed to excessive amounts of radiation at the scene.

The disaster occurred after operators disabled the control system on the nuclear reactor as part of a safety test, creating unstable power levels. Combined with a flawed reactor design, this caused a massive explosion and fires that pumped at least 5 percent of the radioactive core into the air, according to the World Nuclear Association.

Within two weeks of the accident, four doctors from the United States arrived in Moscow, where victims—primarily firefighters who were the first on the scene of the explosion and exposed to high amounts of radiation—were evacuated for treatment.

Depictions of the victims in the Emmy-nominated five-episode miniseries were extremely realistic, according to Richard E. Champlin, M.D., who was among the doctors who worked with a Russian hospital to perform potentially lifesaving bone marrow transplants. He was a part of the bone marrow transplant program at the University of California, Los Angeles at the time.

"It was an emergency in which people had received, in many cases, lethal doses of radiation," recalled Champlin, now chair of the department of stem cell transplantation and cellular therapy at The University of Texas MD Anderson Cancer Center. "The one treatment



The miniseries "Chernobyl" dramatizes the 1986 nuclear accident in the former Soviet Union.

that might help them was a bone marrow transplant, since radiation is primarily toxic to the bone marrow and suppresses your blood counts where people then die of infections."

As a result of the nuclear reactor explosion, 134 people involved with the clean-up were confirmed to have acute radiation syndrome. Within a few weeks, 28 of them died due to radiation.

"When people are exposed to high doses of radiation, it can cause fatal bone marrow suppression," Champlin said. "With radiation accidents, if you receive a low dose of radiation, you don't need a transplant, but if you are exposed to a dose that is around 300 to 500 rads of radiation [a rad is a unit of absorbed radiation dose]—that is potentially fatal. You can be saved with a bone marrow transplant. If you get much higher doses of that, it unfortunately destroys other organs of the body and that is what happened to many of the victims in Chernobyl. They died of gastrointestinal toxicity and radiation."

Although the victims did not

carry any radiation dosimetry devices to measure the doses of radiation they received, doctors ran biological tests to estimate how much radiation was absorbed. According to Champlin, they received 500 rads of radiation.

"For the victims involved, they had terrible injuries. No treatment could have saved most of them," Champlin said. "Bone marrow transplantation is of very little benefit in the overall scheme of things in managing patients with radiation injuries. The primary lesson is to prevent this type of accident from happening in the future."

One of the other doctors recruited to treat radiation exposure after the Chernobyl disaster was immunologist Yair Reisner, Ph.D., now a professor in the department of stem cell transplantation at MD Anderson. Reisner specialized in bone marrow transplantation from mismatched donors and had developed a procedure to avoid graft versus host disease, a condition in which the donor bone marrow and the recipient's own bone marrow attack each other.

Due to the limited resources available in Moscow, Reisner shipped 16 crates of supplies to build his small lab in a Russian hospital.

Over the course of two weeks in Moscow, Reisner, Champlin and the other two doctors performed bone marrow transplants on 13 patients. Only two survived.

"The bone marrow transplant worked in those two patients and, ultimately, their own bone marrow slowly recovered over time, but the transplant helped them survive the immediate effects of the radiation," Champlin said. "They were very sick and, in many cases, too sick, and received too much radiation to their GI tract for the bone marrow transplant to save them."

Champlin brought his insights and experience from treating Chernobyl patients to MD Anderson, where he uses bone marrow transplantation to successfully treat leukemia, lymphoma and blood cancer.

Chernobyl was "an international event with a lot of interest around the world in the outcome of the treatment of the patients," he said. "It was an exciting medical opportunity, but, obviously, a tragic event for the victims involved."

For Reisner, it was not only a poignant medical and scientific experience, but a human experience, as well.

"Being there during the Cold War with the Russians, for me, as a young man, was very special ... to be able to talk to them, learn about their lives and so on," Reisner recalled. "It's not less important than the science." ■

Credit: HBO courtesy photo

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The TMC's Most Instagrammable

The Texas Medical Center is known around the world for its patient care, education and research—but it's also a city in and of itself. Every day, thousands of employees, patients and visitors walk past unforgettable landmarks and striking architecture. With the approach of our 75th anniversary in 2020, we put together a list of some of the most photographed places here in the world's largest medical city, but it is by no means complete. We encourage you to share your favorite places and moments in the TMC on social media, and be sure to tag us using #TMCsnapshots.

A JAMES TURRELL'S "TWILIGHT EPIPHANY" SKYSPACE

Suzanne Deal Booth Centennial Pavilion, West Quadrangle, Rice University Campus

"Twilight Epiphany" is the 73rd in a worldwide series of light-filled architectural spaces created by the famous artist. At sunrise and again at sunset, LED lights cast against the Skyspace slowly change colors, complementing the sky's natural transformation.

B THIRD COAST RESTAURANT

John P. McGovern TMC Commons, 6550 Bertner Ave., 6th floor

Whether you're grabbing a quick breakfast before clinic, enjoying a lunch meeting or sneaking in a happy hour with colleagues, the upscale restaurant run by executive chef Jon Buchanan offers plenty of photo-worthy dishes and drinks, including blueberry buttermilk pancakes.

C TEXAS CHILDREN'S HOSPITAL SIGNAGE

6621 Fannin St.

Reminiscent of a whimsical storybook, the colorful, halo-lit, painted aluminum letters placed among flowerbeds also serve as a wayfinding tool that spells out T-E-X-A-S C-H-I-L-D-R-E-N'S H-O-S-P-I-T-A-L.

D WORTHAM PARK

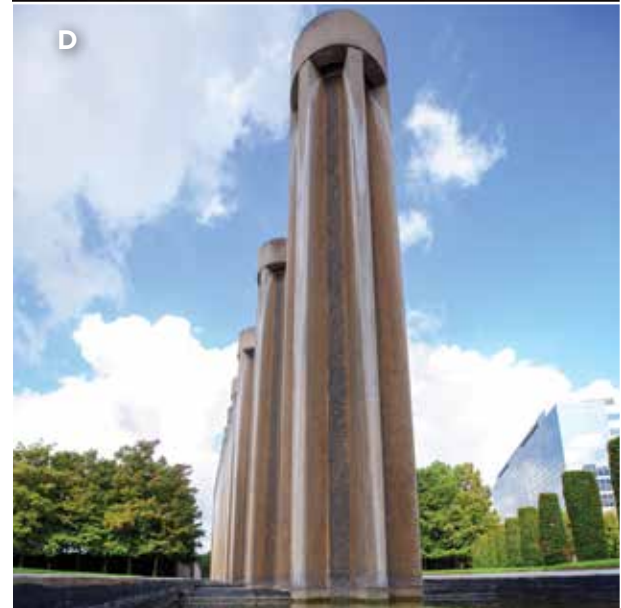
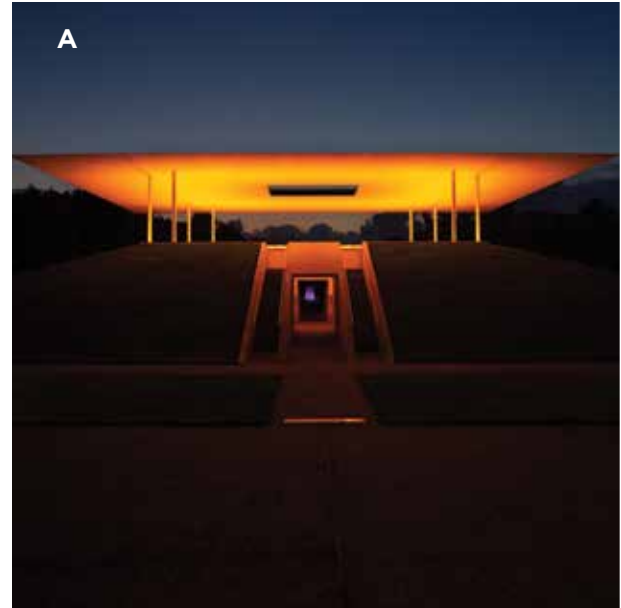
Corner of Holcombe Boulevard and Main Street

Constructed by John Burgee Architects in 1991, the row of towering waterfall fountains is a perfect backdrop for portraits or quiet moments of reflection.

E LABOR AND DELIVERY UNITS

Multiple hospitals in the TMC

Welcoming a baby into the world is often described as one of the best days of a parent's life, so it's no wonder that newborn photos taken during those very first moments are shared far and wide. This photo shows Tessy Carpenter and her son, Calvin Carpenter, born on January 6, 2019 at Texas Children's Hospital's Pavilion for Women.



Credit: E, Jessica Pierce with Bella Baby Photography; H, MD Anderson Cancer Center

able Places

BY ALEXANDRA BECKER



B



C



E



F



H



I

F BILL COATS BRIDGE

Hermann Park, southwest of MacGregor Drive and Almeda Road

The 290-foot suspension bridge for cyclists and pedestrians connects natural areas at the edge of the medical center to the heart of Hermann Park.

G SURVIVOR BELLS

Multiple cancer centers and hospitals in the TMC

Patients who have completed cancer treatment are often offered the opportunity to a ring a bell signifying the end of chemotherapy or radiation. Shauntelle Tynan, pictured at Texas Children's Cancer and Hematology Centers, traveled from Ireland for treatment.

H THE DOROTHY H. HUDSON MEMORIAL GARDEN AT THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER

Main entrance to the campus, 1515 Holcombe Boulevard

The iconic garden contains more than 500 roses and is a cherished place for employees, patients and loved ones to rest, reflect and recharge.

I THE WATERWALL

John P. McGovern TMC Commons, 6550 Bertner Ave.

Equal parts soothing and mesmerizing, the TMC's waterwall is illuminated for national health observances or major milestones—like our hometown Astros winning the World Series.

Scarless Surgery

A new technique for thyroid surgery makes small incisions inside the lower lip

BY SHANLEY PIERCE

Toward the end of 2018, Tracy Faustermann began experiencing a host of unusual symptoms. Her blood pressure was skyrocketing, she had terrible heartburn and her bones were weakening.

"I thought I was just getting old," Faustermann, 35, said. "It's just life. I guess I got bad genes."

One day, her stomach issues worsened to the point where she needed to see a doctor. Her primary care physician initially suspected that her condition might be due to diverticulitis, inflammation or an infection along the wall of the intestines. Her test results came back normal, but her calcium levels were abnormally high.

After running more tests, Faustermann's doctor discovered her high calcium levels, called hypercalcemia, were due to overactive parathyroid glands secreting an excess of parathyroid hormone, which regulates calcium in the blood.

"My doctor said, 'We're just going to watch this for a few years.' But at this point, I had been reading the most recent research on hyperparathyroidism," recalled Faustermann, a technical specialist at Corning Life Sciences. "I said, 'You know what? That's not a good enough answer for me.'"

In search of a more aggressive course of action, Faustermann found an endocrinologist who diagnosed her with severe hyperparathyroidism. The only treatment was to surgically remove the affected parathyroid glands.

Being a meticulous researcher, Faustermann scoured the internet and scientific literature to better understand her condition and her options for minimally invasive surgical treatments.

"I had read a bunch of horror stories. If [doctors are] not specialized in that area, don't do it," she said. "There were only two doctors in the area I would let touch me."

One of the doctors was Raymon Grogan, M.D., associate professor of surgery at Baylor College of Medicine and section chief of endocrine surgery at Baylor St. Luke's Medical Center. Grogan is one of a small cadre of experts in the country who perform a novel, innovative surgical technique called transoral endocrine surgery, which avoids scarring on the neck. Currently, Baylor St. Luke's is the only center in Texas where this procedure is performed.

Typically, surgeons make an incision in the neck to remove the thyroid or parathyroid glands, leaving behind a visible scar. Although less apparent, other surgical techniques—such as those that remove the glands through the armpit or areola—still scar.

However, using the transoral endocrine surgical technique, Grogan makes three small incisions—ranging from 3 to 10 millimeters wide—inside of the bottom lip to create three ports. He can then snake a laparoscope down the center port, and retracting and cautery tools down each side port.

Once the glands are laparoscopically removed, Grogan stitches up the incisions. On average, parathyroid removal takes an hour to perform—two hours for a thyroid lobectomy and three hours for a total thyroidectomy.



Tracy Faustermann had transoral endocrine surgery to remove her parathyroid glands.

After two weeks of healing and reduced swelling, there's virtually no visible sign of surgery.

"Someone passing you on the street, even maybe your relatives, wouldn't even know you had surgery," Grogan said.

Currently, there is no data to indicate that this approach is more advantageous than the traditional surgical method beyond cosmetics.

But value in medicine, Grogan said, is multi-dimensional. There is monetary value (Could this technique help reduce costs?) and clinical value (Will this technique reduce risks and complications and improve outcomes?). However, there's also patient-centered value. This is where the real benefit of the operation lies.

"People don't look into the deeper understanding of what that cosmetic value actually is for patients. They just say, 'They have a scar on the neck. So what? What's the big deal?' ... I think that's a wrong way of looking at it," Grogan said. "The truth of the matter is it's a scar on the front of the neck. It can never be hidden. It will always be there. That's more than not wanting that scar. There is more than just vanity. ... It's a constant reminder that you had surgery. If it was for cancer, then it's a constant reminder that you had cancer."

On Dec. 13, 2018, Grogan removed Faustermann's parathyroid glands. Not having a visible scar was a major selling point for Faustermann.

"Being on the business and sales side, I don't want to have attention drawn to me," she said. "If someone has a scar on their neck, it's really obvious. People stare. It wouldn't have been that big of a deal or been the end of the world, ... but I really like that I don't have to have the scar."

Although Faustermann still has some temporary numbness in her mouth, she said she feels "a lot better than I did before I had the surgery." She no longer suffers from heartburn and has stopped taking blood pressure medicine.

"If I have another enlarged parathyroid at some point in life, we could do it again if we had to, and I would do it again," Faustermann said. "If you have to have surgery, it was the best experience."

Grogan is collecting data to support transoral endocrine surgery as a valuable surgical option. Thus far, preliminary findings show that, besides the cosmetic benefit, there is a reduced risk of injury to the parathyroid, which is one of the possible complications of surgery on the thyroid, but more safety and efficacy data will be needed before this technique becomes mainstream.

"Upwards of 140,000 people per year in the United States could have this operation, so even the smallest benefit to a single patient when you start extrapolating it out to hundreds of thousands of people per year adds up to a very large benefit on a societal level," Grogan said. "That also shouldn't be ignored or be minimized." ■

CURATED

The Intersection of ARTS and MEDICINE

By Britni R. McAshan

Tapping, swaying or marching to a beat might not sound difficult to most of us, but for those suffering from Parkinson's, the physical stiffness and difficulty with balance that are hallmarks of the disease can make independent movement extremely challenging.

Parkinson's is a neurological disorder that can cause tremors, shakiness, stiffness, loss of coordination and impair a person's ability to walk and stay balanced. Dance for Parkinson's, a partnership between the Houston Area Parkinson Society and Houston Ballet, gives participants a chance to build physical strength and move confidently in dance class.

Krissy Richmond, a former principal dancer with the Houston Ballet, became the founding instructor for Houston's Dance for Parkinson's class in 2009 at the urging of Houston Ballet's now executive director, Jim Nelson, whose father had just been diagnosed with Parkinson's.

"We take the structure of a warm-up from a regular class, but do the basics in a chair so our students don't have to think about balance," Richmond explained. "It is remarkable how much you can accomplish in a chair."

Throughout the one-hour class, students perform variations of tap, ballet and modern dance—using arm movements that combine

snapping, tapping and twisting to warm up every muscle before standing to do barre work.

"You're warming up certain areas in the body to get students prepared to engage their muscles so it's not such a foreign thing when they stand up," Richmond said. "Then we go to the barre, we do pliés and test their balance, and then we do across-the-floor work. The class builds so they are not taken off guard as far as their balance goes."

Each week, 15 to 25 individuals with Parkinson's attend the class; all present with differing degrees of the disease. Instructors tailor the lessons to make them safe for students to move independently.

"In any ballet class you go to, you would do several turn combinations, but turns are not a thing we do in this class," said Jennifer Sommers, Dance for Parkinson's instructor and director of education and community engagement at Houston Ballet. "We do change the facing of the room—we go from traveling from the east side of the room to the west side. If you turn too much ... there is a chance for getting your feet tangled up

or tripping, so we always try to have that forward pathway to turn around."

The class stimulates participants' cognitive abilities by prompting them to learn movement

combinations and remember fellow class members' names.

Although most individuals with Parkinson's are diagnosed around the age of 60, the class has no age limit—participants are encouraged to bring friends and loved ones to dance along with them.

Ten years after its inception, Dance for Parkinson's is the founding program of a full adaptive dance suite offered by Houston Ballet, which modifies dance for populations with specific needs.

"I talk about the physical and cognitive benefits of the class, but you cannot underestimate the social impact of the class as well," Sommers said. "We get together and we have fun. We are learning together. We are not a community of people who have Parkinson's—we are a community of people who dance and move together every Monday." ■

.....
To participate in Dance for Parkinson's, which is free, contact the Houston Area Parkinson Society at 713-626-7114 or visit hapsonline.org.
.....



Turning the Anti-Vaccination Tide

The medical community is devising new strategies for talking to parents about the safety and success of vaccines

BY ALEXANDRA BECKER

Nineteen years ago, the Centers for Disease Control and Prevention (CDC) declared that measles—a highly contagious and potentially deadly disease—had been eradicated from the United States thanks to an effective vaccine, a robust vaccination program and a strong public health system.

Fast forward to August 2019, and more than 1,200 cases of measles have been confirmed in 30 states in 2019 alone. According to the CDC, this is the greatest number of cases reported in the U.S. since 1992.

What happened?

An increasing number of parents began declining vaccinations. Known as anti-vaxxers, vaccine-hesitant, and vaccine choice activists, the group gained momentum after Andrew Wakefield, a British doctor who has since been stripped of his medical license, published now widely disproven research linking certain vaccines to autism spectrum disorders.

The medical community is fighting back.

To quell the fears of hesitant parents and deliver the truth about vaccines, more physicians and other medical professionals have started employing methods used by pediatricians to communicate with parents and address their most immediate concerns.

“There’s a lot to learn about these conversations and what conversations work,” said Susan Wootton, M.D., infectious disease specialist and associate professor of pediatrics at McGovern Medical School at The University of Texas Health Science Center at Houston.

It is important to focus on a specific concern, she said, and then help parents understand the information around that concern.

“It’s not a conversation that will necessarily turn the parent around immediately—it might take several visits to talk about it and hear what it is they have questions about, but I think it’s essential to maintain that relationship and help them find their way. It’s really about being an ally,” Wootton said,

emphasizing the importance of patients having a medical home where there is a trusting relationship between the patient and the provider.

It is also necessary to address any vaccine myths head-on by debunking them first, then labeling them, stating why they are not true, and finally replacing the myth with accurate information, she added.

“You want to provide them with the truth that fills in that biggest concern,” Wootton said.

Finally, she cited a shift in language termed the “presumptive approach.”

“This is when a doctor comes in and says, ‘Today we’re going to do your flu shot,’ rather than coming in and saying, ‘Do you want to have your flu shot?’” Wootton explained. “A presumptive framing is more effective than the ask, and that’s a simple thing to train providers on.”

In August, *STAT News* published a story about an initiative in Québec that stationed a new workforce of vaccine counselors in maternity wards. Their goal was to employ a “no-pressure strategy,” using a technique called motivational interviewing to speak to parents about their opinions about vaccinations and then offer to answer any questions or concerns they may have.

Other methods are in the works. At the annual meeting of the European Society for Paediatric Infectious Diseases, Saad B. Omer, MBBS, Ph.D., director of the Yale Institute for Global Health, encouraged pediatricians to frame the conversation in a way that focuses on the disease and its potential consequences rather than the safety of vaccines, according to a June article published in *Pediatric News*.

But one of the issues at hand is not simply how the conversations are being framed, but if a meaningful conversation can take place at all.

“Most parents aren’t deeply dug in—they’re just scared and inundated with misinformation, and it requires a conversation, and sometimes that can go on for 20, 30 minutes,” said Peter Hotez, M.D., Ph.D., dean of the National School of Tropical Medicine and director of the Texas Children’s Hospital Center for Vaccine Development at Baylor College of Medicine. “The problem you get into is the logistics of having a 30-minute conversation in a busy pediatric practice.”

It makes sense, then, that the initiative in Québec included a new classification of employees—rather than tacking on a time-consuming yet critical task to the caseloads of already-busy pediatricians and nurses.

Agreement and divergence

The anti-vaccination movement continues to rise, in part because its members are vocal, social-media savvy and appeal to some of the most basic of human desires: that of a freedom to choose and a longing to keep loved ones safe.



And therein lies the crux of the issue: While the medical community has proven time and again that vaccines are safe and effective in preventing a multitude of diseases, many vaccine-hesitant parents still conclude that the safest choice for their children is letting nature take its course.

"The one thing we can all agree on is that we want our children, and we want our families, to be safe and healthy," said Rekha Lakshmanan, MHA, director of advocacy and public policy at The Immunization Partnership, a Houston-based nonprofit that promotes vaccination through education initiatives, policy efforts and community outreach initiatives. "Where there is some divergence, however, is where and how you get the information, and what information you use to make that informed decision."

According to experts, parents are increasingly turning to the internet as their voice of authority on the topic.

"There is a lot of misinformation, and I think it's really hard to navigate what's out there—we call it 'Dr. Google,'" Wootton said.

Hotez noted that the latest data suggests there are at least 480 anti-vaccine websites, many of which are widely circulated throughout social media.

"You're more likely to download misinformation than you are real information," Hotez said. "Most of the time, parents are willing to have their kids vaccinated; it's a very small percentage of parents who are deeply dug in. It's just that they're scared because they download all the misinformation, which is ubiquitous on the internet."

Lakshmanan echoed Hotez's assertion that the anti-vaccination movement is small but powerful.

"At the end of the day, people who are opposed to vaccines are a relatively small group of people, but they are extremely vocal and engaged in advocacy, and as a result of their loudness, they look and feel a lot bigger than what they really are," Lakshmanan said, adding that The Immunization Partnership urges

parents to listen to their physicians rather than what they've read online.

"Although physicians educate their patients, they also need to advocate for strong, sound immunization policies and educate policy makers," she added. "Physicians are not only a trusted voice to patients, they are a trusted voice to policy decision makers."

At the moment, the number of unvaccinated children in Texas is rising.

"We've got over 64,000 kids not getting vac-

nated, and these are the ones we know about—we don't know anything about the home-schooled kids," Hotez said. "This issue is not going to go away any time soon." ■

“The one thing we can all agree on is that we want our children, and we want our families, to be safe and healthy. Where there is some divergence, however, is where and how you get the information, and what information you use to make that informed decision.”

— REKHA LAKSHMANAN, MHA
Director of advocacy and public policy
at The Immunization Partnership



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MAJOR GENERAL RICK NORIEGA has been CEO of Ronald McDonald House Houston for two years following an impressive career in public service. He spent a decade in the Texas legislature representing Houston's east side, served in Afghanistan and oversaw the conversion of the George R. Brown Convention Center into a massive shelter as Houston welcomed Hurricane Katrina evacuees in 2005. The native Houstonian discusses how his experiences have influenced his leadership and what's next for Ronald McDonald House Houston.

Q | During your time in the Texas legislature, you were the primary author of the Texas Dream Act, which provides in-state college tuition for undocumented immigrants who have lived in the state for three years before graduating from high school or receiving a GED and are seeking legal status. How did that come about?

A | That's what I'm going to have on my tombstone. Being a person called to public service, sometimes it's as simple as someone calling your office to say they can't get into Houston Community College because they're an immigrant kid—a Salvadoran refugee—and the college is trying to charge international tuition. He was trying to do the right thing and go through the process. He wanted to be an aviation mechanic. His dream was to work for Boeing. I thought: This is probably not unusual—especially in the district I represented [East End/Ship Channel area]—and how many other kids are affected? I had the University of Houston do a survey by a demographer asking some questions to see the depth of the issue. The political dynamic at the time in Texas was that Rick Perry had ascended to the governorship

from lieutenant governor after George W. Bush became president, so he had yet to run a race for governor. Under the radar in 2001, the governor signs the bill.

Q | So, what happened to the young man who sparked the Texas Dream Act?

A | Rosendo Ticas is an aviation mechanic today. He's married and has three kids. He owns a house and a rental house. He became a citizen and voted in the last presidential election.

Q | Readers also might remember your role in Houston's response to Hurricane Katrina in 2005.

A | At the time, I was on leave from deployment in Afghanistan and tri-hatted, serving as a state representative, a traditional Guardsman and working for CenterPoint Energy in the economic development department. I had been home for a few weeks in the summer of 2005 burning my leave time going to the beach, then Katrina and Rita hit. The Astrodome was about filled up and Mayor Bill White decided to open up the convention center. I was invited to the meeting and they said I was going to run things as incident commander. I walked through the

convention center around 10 a.m. and by 6 p.m., buses were rolling in. People were wet and everything, coming directly from New Orleans and the Superdome. It's pretty amazing what this city is capable of. It was remarkable.

Q | How did you connect with Ronald McDonald House Houston?

A | In civilian life, I had retired from another nonprofit in San Antonio, AVANCE, and returned to Houston in May 2017 to take care of my mother, who will be 88 in September. She was by herself and my siblings were out of town. I had a little over a year before my Army retirement and I had made brigadier general, so I was being asked to do more. I was going to turn over rocks for a while in Houston when I got approached for this opportunity in the spring of 2017. I started in July 2017.

Q | You began your tenure by guiding the expansion of Holcombe House, the temporary residence for sick children and their families that now offers 70 rooms. A month later, Hurricane Harvey hit amid construction. How did you manage that crisis?

A | We set a decision point for families about two days out: Are you going to go to the hospital, go home, stay with a friend or are you going to stay here with us and wait it out? We got in our workroom, called in all our employees, pulled out our emergency plan and went through it line by line. Who's going to do what? Who's going to be where? All the generators were gassed up and we moved the [portable toilets] out so that they wouldn't become projectiles. I headed back to Austin in my role with the Texas Army National Guard and we huddled on calls every morning. The water came up on the back patio, if that. Topographically, we are on the high point of the Texas Medical Center. We were super-proud of the fact that we maintained operations during





Harvey. We were pretty much isolated for 72 hours, but none of the kids through that period of time missed an appointment or a treatment. The ones that were still here, we were able to help. We were also super-fortunate to finish construction on time and under budget.

Q | Have those successes influenced your ambition for Ronald McDonald House Houston?

A | With our board, staff and volunteers, I have learned that we can walk and chew gum at the same time. We were totally operational in the middle of a construction project and a major hurricane. We are changing our advancement model to feed the beast with 40 percent more capacity. As we look at our new normal serving more families

and children, I feel confident that we are going to do the operational things better than anybody else. One of the principles of the military is that you're always improving your position. We are open to changes and new ideas.

Q | You completed your military service last year. Explain your honorary boost from brigadier general to major general—from one star to two stars.

A | I retired from the Army in February 2018. It's a ceremonial promotion at retirement honoring you at the next highest rank.

Q | What specific skills do you transfer from the military to your current role?

A | People skills—liking people,

respecting people, learning from people. It's given me the knowledge base to deal with a lot of different things. In this position, you get to see the most amazing children—the beauty, the resilience, the love—every day. I am still learning, having fun and feeling incredibly blessed.

Q | How does Ronald McDonald House Houston help families beyond shelter and food?

A | Our intervention in this social space, which is family-centered care, helps them to get better and to be better. Our intervention of caring for families beyond their basic needs helps alleviate stress and helps them with all types of collateral things they may be dealing with, such as mental health and support systems. That intervention helps

improve recovery times and hospital stay times and it helps the family to be healthier and stay together through an incredible crisis to keep them whole.

Q | You have expressed an interest in collecting data to determine if staying at Ronald McDonald House Houston during treatment improves outcomes for patients. How far along is that project?

A | We have the assistance of a grant from the Baxter Trust. That gift allowed us to embark on a research strategy we are pursuing as a part of our long-term sustainability plan. ➡

It allowed us to do our self-evaluation by collecting our own numbers in family activities, early childhood development, nutritional data—understanding what we do. I believe, in the greatest medical center in the world, we should be at the forefront of understanding family-centered care and how what we do makes a difference. Doctors will report that patients say that it's very important for them to stay at Ronald McDonald House, but I want us to have empirical evidence to be able to demonstrate that it helps families recover.

Q | With 70 beds, is Holcombe House one of the largest Ronald McDonald House facilities in the country?

A | We're in the top 10 percent in the United States. We have family rooms in MD Anderson Cancer Center and Texas Children's

Hospital. We also have an embedded 20-bedroom house in Texas Children's and we have sleep rooms in Children's Memorial Hermann Hospital. Parents may need to sleep over to be trained by the nurses on how to care for the child or for grieving purposes.

Q | What do you wish people understood better about Ronald McDonald House Houston?

A | We're not funded by Ronald McDonald. We are almost entirely funded by local community grace and benevolence. We get minuscule federal money for a family that might qualify for Medicaid, like \$25 a night, but the cost for a family to stay here is about \$200 a night for the food, lodging and transportation. There are a whole lot of other restrictions and issues. You can't be a resident of Harris County or

a county that abuts Harris County. We are funded through grants, primarily from our local foundations and family foundations that we've had relationships with for 40 years. We have our Boo Ball, which is our famous Halloween event, and our golf tournament—the Ronald McDonald House Cup—and our Spirit of Hope volunteer luncheon. Then we have a run, the Trafigura Run for the House, which is sponsored. I want folks to know that we receive occasional support from Ronald McDonald House Charities. Otherwise, everything's local. We want the local community to know that we need them. I look at us as a real symbol of this city, our core values and what's best about Houston. That's what makes me proud as a native Houstonian.

Q | Does McDonald's contribute?

A | Our local restaurant owners and operators do—but that's still local.

Q | You've been in leadership positions for decades, but what does it feel like being a CEO?

A | If I ever need a dose of reality, I go play with the kids or Mogie [the 1-year-old Australian Labradoodle who lives at Ronald McDonald House Houston and serves as its canine comfort ambassador]. The stories are very humbling. This place has an incredible history and because of the foundation that we're on here at the Texas Medical Center, the best days are yet to come. ■

Major General Rick Noriega was interviewed by Pulse assistant editor Cindy George. The conversation was edited for clarity and length.



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High risks and high costs for young blood

A California-based biopharmaceutical clinic announced in August that its proprietary mixture made of plasma from young donors stopped cognitive decline in mild-to-moderate Alzheimer's patients after six months.

In a randomized study by the company, Alkahest, 39 patients intravenously received either 100 milliliters or 250 milliliters of the plasma for five consecutive days during the first week and again for five consecutive days during the 13th week.

No detailed data on the study has been released yet, but Alkahest said in a press release that "these plasma fractions enhance neurogenesis, improve age-related deficits in learning and memory, and reduce neuroinflammation" in animal models.

Plasma can be life-saving or potentially life-threatening, depending on the medical situation. Over the past few months, this straw-colored component of blood—which carries blood cells and proteins, contains antibodies, glucose, clotting factors, electrolytes and hormones—has been shrouded in controversy.

In legitimate emergency situations (such as trauma and burns) and rare chronic conditions (such as autoimmune disorders and hemophilia), plasma is essential for survival. The World Health Organization includes fresh frozen plasma on its WHO Model List of Essential Medicines, which outlines the most important and integral medicines for a basic health care system.

But in other scenarios, including using plasma infusions from young donors to tap into a so-called "fountain of youth," medical experts say plasma can be life-threatening.

Earlier this year, the U.S. Food and Drug Administration (FDA) issued a warning against the use of plasma infusions from young donors in hopes of treating dementia, Alzheimer's disease, Parkinson's disease, multiple sclerosis, heart disease, post-traumatic stress disorder and other age-related conditions.

"When companies are giving plasma just to deal with neurologic symptoms without any good medical evidence, it's a risky thing to do," said Modupe Idowu, M.D., associate professor of hematology at The University of Texas Health Science Center at Houston's McGovern Medical School.

Risks include transfusion-related acute lung injury, transfusion-associated circulatory overload and allergic and anaphylactic reactions, along with infections, febrile non-hemolytic transfusion reactions and hemolytic transfusion reactions.

A single unit of plasma contains 250 milliliters of plasma, typically from four to eight donors, according to Idowu.

"It's exposing the patient to multiple donors at the same time," she said.

Studies have explored the benefits of young

blood in experiments with mice. In 2013, Stanford University researchers conjoined the veins of an old mouse to a young mouse to share the same blood circulation, resulting in the reversal of cardiac hypertrophy (the abnormal enlargement of the heart muscle) and some improvements in cognitive abilities in the older mouse.

However, clinics selling plasma from young donors are not replicating the same experimental conditions, said Vivien Sheehan, M.D., Ph.D., assistant professor of hematology-oncology at Baylor College of Medicine.

One California-based company, Ambrosia, sold participation in a clinical trial that offered each client one liter of human plasma harvested from young adults. Ambrosia charged \$8,000 for that one liter, but since the FDA warning, the company has shut down.

The Ambrosia trial raised major safety concerns.

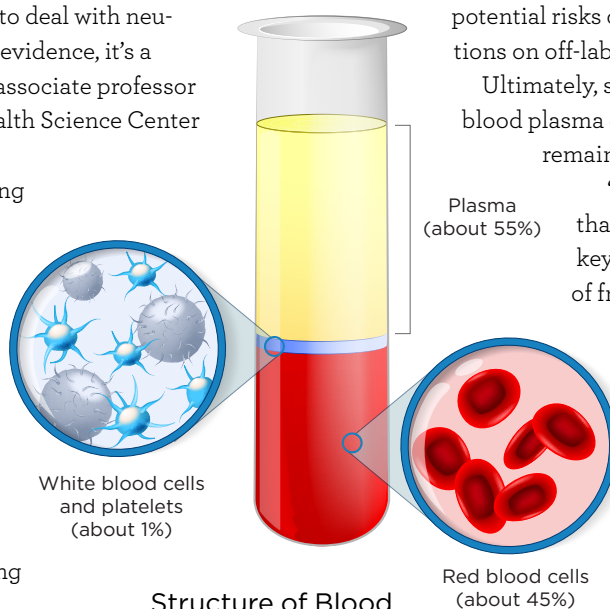
"I've never seen an alleged trial that only had one inclusion criteria: that you be over 35," Sheehan said. "There were no other safety measures taken to make sure you've never had a transfusion reaction, to make sure you can handle the volume, to make sure you're not hypercoagulable. There was nothing in there to protect the individual and screen out people for whom this would be more dangerous. ... This was clearly just an advertisement masquerading as a clinical trial. I can't emphasize enough how disturbing it is that patients are being put at risk for something that is so unproven. The thing that is proven is that plasma can kill you. The thing that is unproven is that it would have any benefit whatsoever, so the risk-benefit ratio is completely off."

Jesse Karmazin, CEO of Ambrosia, recently opened a new venture and is continuing to sell 1 liter of blood plasma for \$8,000 and 2 liters for \$12,000.

"Ambrosia was dissolved, but Ivy Plasma is open for business. Ivy Plasma provides off-label plasma treatments, which is legal," Karmazin wrote in an email to *TMC Pulse*. "I can't comment on the potential risks or benefits of this treatment due to restrictions on off-label marketing of medications by the FDA."

Ultimately, scientific evidence that shows young blood plasma can counteract age-related diseases remains sparse.

"If there are some factors in younger blood that could be helpful to an older patient, the key would be to identify them, do the real work of fractionating and identifying what proteins or micro RNA or factor that would be beneficial to older people, then find a way to either deliver it pharmacologically or genetically," Sheehan said. "The whole plasma approach is kind of a dumb strategy." ■



Structure of Blood

Shifting Gears

A former competitive cyclist finds a new passion leading a medical device startup that diagnoses bacterial infections to fight sepsis

BY SHANLEY PIERCE



Sinead Miller walked away from competitive cycling after a serious brain injury left her unable to compete on a world-class level.

Motivated by her own trauma, she decided to pursue a career in neuroengineering.

“I wanted to make some impact in the health care space to help people like me,” Miller, 29, said.

After earning a B.S. in chemistry from Marian University and a B.S. in biomedical engineering from Purdue University, Miller began graduate school at Vanderbilt University in 2014. While working on her doctorate, she focused her research on the use of iron core nanoparticles to magnetically extract bacteria from blood.

That research laid the groundwork for her next move—combating sepsis, a life-threatening infection to which the body has an overactive, outsized response. She picked up funding from the Department of Defense to help treat soldiers returning from Iraq and Afghanistan with drug-resistant bacteria.

At least 1.7 million American adults are affected by a sepsis infection each year, resulting in nearly 270,000 deaths, according to the Centers for Disease Control and Prevention. One in three hospital deaths are due to sepsis.

“It’s the biggest killer in our hospitals right now,” Miller said. “I had this idea for a device that doesn’t use nanoparticles but uses kind of a similar technique to bind bacteria and pull them out of blood. I used the knowledge that I had to

Sinead Miller, a former elite cyclist, poses with her bike at Memorial Park.

fabricate this device that was for cleaning blood, pulling bacteria out. And it worked.”

In early 2017, Miller partnered with Alex Wieseler, whom she met while working for a nutraceuticals company in Nashville, Tennessee, to start a biomedical device company. PATH EX is part of the current cohort of biomedical device companies at TMCx, the TMC Innovation Institute’s accelerator program.

Miller’s device, which fits in the palm of a hand, can diagnose bacterial infection in the blood by capturing and removing pathogens and their associated toxins. The

“ I wouldn’t even say that I’m recovered. I still don’t feel normal. It took me two years to get to a point where I could function like a normal person, where I didn’t really slur my words and I could go do normal things like go out to dinner and things like that. ”

— SINEAD MILLER
CEO of PATH EX

device takes a five-milliliter blood sample from a patient suspected of having sepsis or a bacterial infection, separates the bacteria from the clean blood and allows doctors to immediately test the bacteria.

In addition, PATH EX has developed a therapeutic device to treat infected patients. Similar to a hemodialysis machine, the device circulates the patient’s blood continuously, captures the bacteria

and associated toxins and flows the clean blood back into the patient.

Creating a medical device and taking it to market is a process not for the faint-hearted. Miller knows it’s a journey as arduous as it is rewarding. She’s been down a similar road before.

Born to ride

At the age of 3, Miller could be found on her bike, pedaling around the race track while her father, former superbike racer Rex Miller, was competing. Her mom waited on the sidelines, ready in case her father needed a tune-up. ➡



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Even as a young child, Miller's focus and ability to visualize a far-off goal was apparent. She entered her first BMX racing competition when she was only 4 years old. Boys dominated the BMX scene back then, and being a girl in a sport that was very much a boy's club made competing impossible. There weren't any girls to race.

"I was a tomboy growing up and I always wanted to play with boys. I always would ride at the BMX track with boys, my friends were boys and, naturally, I wanted to race boys, too. There were rules in BMX at the time where you couldn't," she said.

Miller was determined to train with the boys in order to reach the top of her game, so her parents took her to races in different states, tucked her long blonde hair under her bike helmet and told people she was a boy.

"No one knew us. We'd just hide that I was a girl, put my hair up under my helmet, send me out, race the boys and then come back into



Miller works in her lab at JLABS @ TMC, where she and her company, PATH EX, have been located since joining the TMCx medical device 2019 cohort.

the van and leave. But that's what we had to do so that I could race and improve."

Miller's training paid off.

As a sophomore at South Park High School in her hometown of Pittsburgh, she earned a national level in BMX and turned pro at the age of 15. But she later retired from her BMX racing career to focus on her true passion: road cycling.

"It would seem BMX and road cycling are really similar to a lot of outsiders because they're both bicycles," Miller said. "If you think of, say, running, for example, you can't be the best sprinter and the best marathon runner. It's totally different. The same goes for cycling. BMXers are your pure sprinters."

Miller had her sights set for the long haul and seemed destined for cycling greatness.

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Full speed ahead

While attending Marian University in Indiana on a full cycling scholarship, Miller joined the U.S. National Team at 18 and represented the country in races around the world—including Italy, France, Poland, South Africa and Belgium—with each race propelling her toward a spot in the 2012 Olympic Games.

But on Sept. 1, 2010, as Miller sped down the course near the end of the second stage of the three-day Ladies Tour of Holland (now known as the Boels Rental Ladies Tour), her dreams came to a crashing halt.

To this day, Miller doesn't remember careening into a parked car at 30 miles an hour. She doesn't even remember starting the race.

The crash happened so quickly that Miller didn't have time to stretch out her hands to brace her fall after she was catapulted from her bike. All the impact went to her face, shattering her front teeth, nose and jaw. In addition, she fractured her C3 and C5 vertebrae and

suffered a traumatic brain injury.

"Once you're like that, you're in that state of just fogginess," she said. "You literally get double vision. You're bound to make a mistake, so you just don't want to be in that situation. You can't really race at a world-class level if you're not at 100 percent capacity."

Balance is key

Wieseler, who spends a lot of time in the lab with Miller, appreciates how her business partner has transferred the focus and discipline she honed during her cycling career to her life as an entrepreneur.

"It's not just about the time you're riding, but how you eat, how you sleep, everything all the other times," Wieseler said. "That's very similar to a startup. We're very busy and we spend a lot of time working, but it really encompasses your whole life. She took that from cycling and moved that into what we're doing now—just the drive she has to complete this mission of hers

to see this through to where it can make a difference and help people."

Miller also makes sure to take care of herself. By all appearances, she looks like she has recovered from her cycling crash, but "recovery is a strong word," she said. Her brain hasn't fully healed. She suffers from debilitating migraines, drowsiness and fatigue.

"I wouldn't even say that I'm recovered," Miller said. "I still don't feel normal. It took me two years to get to a point where I could function like a normal person, where I didn't really slur my words and I could go do normal things like go out to dinner and things like that."

Miller manages her post-concussive symptoms by planning her days to minimize anything that might trigger a migraine. If she knows she'll be spending a lot of time in the lab, she'll make sure not to schedule meetings in the afternoon. She doesn't cycle for more than two hours to prevent a migraine that could last two

to three days.

Miller's head trauma is an ongoing battle, but that hasn't stopped her.

"I see the resilience," Wieseler said. "I can't imagine having headaches or migraines most of the day, so the fact that I don't see it is the biggest sign. She does a really good job of pushing through whatever she's going through."

As Miller reflects on her accomplishments as an elite cyclist and goals as an entrepreneur, she realizes that balance is key.

"With cycling, I got to the point, I think, where everything I did revolved around it. It didn't matter what else was going on. If it was Christmas Day, it didn't matter, I'm still going to train," she said. "I don't think that was necessarily the best way to live. ... I try to use that now with the startup company. It's really time-consuming, but there's always ways to balance things in terms of time." ■



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YEARS

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Life expectancy in the United States has increased by more than 30 years over the past century—from an average of 47 years in 1900 to an average of 78 years today. Access to health care is a major reason for this shift.

Ted Adderly, 67

Two years ago, Ted Adderly was fighting for his life and the chance to walk his beloved daughter, Teddi, down the aisle at her wedding.

"I knew I had heart issues," Adderly recalled. "What I did not know was the extreme urgency that I was involved in. I had known about the congestive heart failure for a few years and I tried to live with it."

But during a routine check-up, doctors realized his symptoms had worsened dramatically.

"They rushed me to Memorial Hermann in the Texas Medical Center, did an evaluation and once again determined my situation was critical. They admitted me for testing," he said.

Adderly's health began to decline soon after his daughter announced her engagement.

"My daughter, Teddi, was the firstborn, dad's only girl, and she has grown up to be a very beautiful and intelligent young lady," Adderly said. "The goal was to have me walk her down the aisle and she asked the doctors how likely it was that I would be alive long enough."

After months of languishing in the hospital, Adderly's already-serious condition took an even more momentous turn.

"One afternoon, I was sitting in my hospital bed and the doctor came to check on my monitor and in the time he was standing there, he saw that my heart was about to stop," Adderly said. "A heart attack and heart failure are two different things—you can survive a heart attack, but the possibility of surviving heart failure is totally different. He said I had about 30 minutes left."

The only chance for survival was a heart transplant.

"I was blessed enough to get a heart in 21 minutes," Adderly said. "A doctor from the transplant team called and told me they had found me a heart and a kidney and they wanted to do the transplant immediately. At 1:21 p.m. I got the call, at 1:25 I was in the operating room and probably about 1:30, they were doing their work. After about six to eight hours of surgery, they put in the heart. They waited a day to put in the kidney, then two and a half days later, I woke up from a medically-induced coma and I had no clue that the surgery had been completed. I woke up in no pain and about three or four days after surgery, I was released to go home."

Adderly walked his daughter down the aisle and their story was shared on TLC's "Say Yes to the Dress." In addition, he has welcomed two grandchildren to the family.

"That was two years ago and I have not looked back," Adderly said. "My heart is wonderful—my donor was 25 years old and I'm doing almost anything I want to. The only restriction I have is diet and alcohol in extreme moderation. I still enjoy a little red wine, but other than that, my life has not changed."

—Britni R. McAshan



Joseph “Pappy” Colwell, 98

At 98, Joseph Colwell—known to everyone as Pappy—claims to be the oldest living World War II Marine in the Houston area.

“Probably in all of Texas,” Colwell ventured.

Colwell has three children and four grandchildren. His beloved wife, Frances, died in 2008.

When people find out he is almost 100, the first question they ask is: *What do you eat?*

“I tell them, and I’m serious, I eat everything that’s bad for you and nothing that’s good for you,” Colwell said.

He favors meat and potatoes, reaching for Cheez-It crackers and potato chips when he’s watching a baseball or football game on TV. Coffee ice cream is also part of his personal food pyramid.

“I used to put three or four scoops in a bowl every single night,” Colwell said. “I quit doing that maybe a year ago. I eat it right out of the bucket now. I’m not going to dirty a dish.”

Colwell is living with his second pacemaker, implanted about three years ago. The first one lasted seven years and was implanted after he ended up in the emergency room with a heart racing so fast it woke him from a sound sleep. He is so used to the pacemaker, he just forgets it’s there.

Seven years ago, Colwell sustained a brain injury. He tumbled off a bar stool at his son’s beach house in Corpus Christi and hit his head. At first he seemed fine, but about a week later he started leaning to one side and having difficulty walking. His family rushed him to the emergency room.

Colwell ended up undergoing brain surgery at Memorial Hermann-Texas Medical Center. His doctor said his brain had actually shifted to the side in his skull. Surgeons went in and drained blood and fluid.

“I’ve got an indentation where they drilled into my skull,” Colwell said. “The doctor said it was a good thing I was as old as I was. He said in older people the brain has a little room to move—it’s got more space. He said if I had been a younger guy, in my 50s or so, I’d have been dead.”

Originally from Hudson, New York, Colwell moved his family to Houston in 1957. He got a job delivering mail for the post office, then went on to become a foreman. When he retired, he was superintendent of route inspectors.

Colwell lives on his own and sees his children and grandchildren often. But he’s honest about the frustrations of day-to-day life as a near-centenarian.

“One of my former favorite pastimes was golf,” he said. “Can’t play golf now. The knees the way they are, I couldn’t do it. So I have no hobbies to speak of. And it’s very frustrating. ... I’ll get up and I’ll think, so this is life. I’m going to get my breakfast, worry about what I’m going to fix for lunch. There are no ball games on tonight ... and what am I going to do tomorrow?”

So he stays busy. He works out four days a week, driving himself to the gym in his 2014 Mustang GT. He does the same workout each day: treadmill for 30 minutes and then dumbbells, arm weights and the stomach machine for another 30.

“Working out has gotten to be like an addiction,” Colwell said. “I have to go. And I know there are quite a few people over at the gym that go because they find out how old I am and they’ll think, ‘Well, if he can do it, I can do it.’ I’ll wake up and I’ll think, ‘I don’t want to go to the gym today.’ Then I’ll think, ‘Well, so-and-so’s there because I come there. Gotta go. Gotta go.’”

—Maggie Galehouse

▶ WATCH A VIDEO FEATURING COLWELL AT TMCNEWS.ORG



Frieda Frazier, 70

Frieda Frazier typically bowls a 160 when she's out with her church group—women in one lane, men in another.

"We just play to have a good time," Frazier said.

She has four children, 15 grandchildren and five great-grandchildren. She and her husband, Curtis, live with their oldest daughter and her family in a house they built together 17 years ago.

At home and at play, Frazier is an active member of an extended community.

But in 2012, when she was diagnosed with breast cancer, her role in both worlds was threatened.

"I went to the doctor that April—I knew the lump was there," Frazier, now 70, said. "I did chemo through October, surgery in November, then radiation from January to the end of February."

Surgeons removed 19 lymph nodes around Frazier's right breast during the lumpectomy, although only one was cancerous. Her oncologist at The University of Texas MD Anderson Cancer Center assured her they had caught the cancer in time. And they had. But it was a long haul from diagnosis to recovery. Frazier, a senior account manager at a Houston insurance services company, didn't work for nine months.

"Chemo didn't like me," she said.

And then, in 2016, Frazier faced an entirely different health crisis: she found herself increasingly short of breath. After a trip to New York City, during which she struggled to walk around Central Park, Frazier's primary

doctor referred her to a cardiologist.

After reading Frazier's electrocardiogram, the cardiologist, who works with Texas Heart Institute and Baylor St. Luke's, had some choice words.

"He came into the office and said 'We have two votes, yours and mine, and mine counts most,'" Frazier recalled. "He said 'I want to put you in a wheelchair and roll you to St. Luke's ... and we're going to put you through the emergency room because you really look like you're a heart attack waiting to happen.'"

Around 10 p.m. the same night, Frazier learned she would be undergoing heart surgery the next morning.

"Having a double bypass was a cinch compared to having cancer," she said. "I never was scared and it didn't really hurt as bad as I thought it would. They glue you back together."

She was released from the hospital after six days.

Today, Frazier works 40 hours a week and has advice for anyone who'll listen: "You have to go to the doctor. We live in a medical center town that has some of the best doctors in the world. It would be a shame to lose your life because you won't go see them."

She often thinks of something her 88-year-old mother told her, something that has become a mantra for both her and her mom.

"After my dad died," Frazier recalled, "my mother said, 'I'm not going to sit in this chair and wither away and not live my life. I'm going to keep on moving.'"

—Maggie Galehouse

Joe Ramirez, 88

In November 1950, 18-year-old Houston native Joe Ramirez was captured while serving as a U.S. Army scout sniper in the Korean War.

Held captive in North Korea for nearly three years—33 months and one day, to be exact—Ramirez expected to die in the prison camp.

“I was shot five times when they captured me and they didn’t have medical care in that camp,” Ramirez recalled. “We lost 1,600 men that winter and I used to sit out there, looking at the piles of bodies, and wonder when I would be next.”

Because of harsh winters, malaria and so much time in captivity, Ramirez got down to 87 pounds as a prisoner of war. He believes his fellow soldiers’ dandelion tea kept him alive.

Upon his release, Ramirez went on to serve another 22 years in the military, retiring as a master sergeant. With war in his rear view mirror, another battle for survival lay ahead of him.

“Seventeen years ago, I got colon cancer,” Ramirez said. “They cut a big piece of my intestine to get rid of the two-inch strip of cancer.”

In retirement, Ramirez, now 87, found work teaching inmates at the Texas Department of Criminal Justice how to make eyeglasses. He enjoys staying active.

“I wake up at 4 a.m. I’m on the road to the gym by 5 a.m. I go down and work out at the VA, lie down for a couple of hours, piddle around in the yard with my plants and then if my wife wants to go somewhere, we’ll drive around. I’ve got a good wife—we’ve been married 34 years,” he said. “My first wife died of breast cancer and we were married for 26 years—she’s the mother of all my kids. I have two boys and two girls. I lost my young son in an accident eight years ago.”

In 2013, Ramirez was invited to the White House to honor his mentor and the man who baptized him, the late Father Emil Kapaun. Kapaun was a Roman Catholic priest and a U.S. Army captain who served as a chaplain in World War II and the Korean War. He died in 1951 as a prisoner of war in North Korea, in the same camp where Ramirez was held.

“I was at the White House with Obama when he awarded the Congressional Medal of Honor to Father Kapaun,” Ramirez said. “There were only five POWs invited and I was one of them.”

But as the years have passed, fewer and fewer of Ramirez’ fellow soldiers are left.

“We are like the veterans from the Second World War—we are too old,” he said. “We used to have reunions every year, but they had to quit because too many of the guys were sick. You have to figure, I was 18 years old when I went to war and I am 88. A lot of them are gone.”

Earlier this summer, during a regular check-up at the Michael E. DeBakey VA Medical Center - Houston, Ramirez was told his cancer had returned.

“They discovered the cancer about a month ago—they call it colon, but they said I have a spot on my liver and a spot on my lung,” he said. “I started urinating blood and they found those spots.”

Ramirez has been going to the VA for chemotherapy treatments.

“Life is great; I’m just happy that I’m here and alive today,” he said. “Every morning when I get up, I open my eyes and I say, ‘Thank you, Lord.’”

—Britni R. McAshan







Mary Coffey, 110

Born March 20, 1909 in Burgin, Kentucky, Mary Coffey has seen two world wars, victory for the women's suffrage movement, the assassination of President John F. Kennedy, a man on the moon and the swift rise of the internet.

Her father, a shrewd businessman who ran racehorses, foresaw the Great Depression; he sold his land and all but two of their horses and moved his family to Rosenberg, Texas, where he purchased a feed store and rode out the poverty-stricken era through bartering.

By the time Coffey was 13, her father had purchased a Model T Ford, which she would drive down cow trails from Rosenberg to Houston.

In 1928, she married Otis Coffey, who coached Olympic track and field and boxing teams in Pakistan and helped start 15 commercial colleges abroad. She joined him on his travels and, according to her son, David, has been around the world 18 times and has met presidents, kings and the Queen of England. Her favorite U.S. president is Barack Obama, David added, from

whom she has received no fewer than three letters.

"It's amazing the places that I have been and seen, because I have made friends with all of these people, and they would take me to the most personal places you ever saw—places that you'd never get to on your own," Coffey said after a bible study in April at Colonial Oaks Senior Living in Sugar Land, where she currently resides.

Although Coffey has enjoyed excellent health throughout the majority of her 110 years, she has been treated at hospitals in the Texas Medical Center for routine tests and minor ailments.

Coffey's mind remains sharp. She credits her longevity to three things: prayer, bible study, and POND'S cold cream. Not long ago, the skincare company sent her a year's supply after hearing her speak so highly of them.

"I wish they'd send me another year's supply," Coffey said in April.

"That's what you call faith," her son, David, replied.

— Alexandra Becker

NEXT MED

New technology and techniques

By Maggie Galehouse

Did you take your pill?

Meet ReX, a drug-dispensing device designed to help patients remember to take their pills. About the size of a coaster, ReX is part of a cloud-based tracking system that delivers real-time data to caregivers.

“We’re here for that niche, high-risk, high-value, dangerous drug—for very specific treatments that are going to have a big impact on the patient,” said Edan Razinovsky, director of business development at Israel-based DosentRx, the company behind ReX. “This device is our solution to patient nonadherence and noncompliance.”

Most people struggle to start and stick to new routines. Between 33 and 69 percent of medication-related hospital admissions are due to poor medication adherence, causing an estimated 125,000 deaths and costing as much as \$300 billion each year, according to the National Institutes of Health.

DosentRx aims to decrease waste and noncompliance by tracking medication from the pharmacy and dispensing it directly into a patient’s mouth.

“When it’s time to take the med, ReX will start beeping and buzzing,” Razinovsky said. “If you don’t answer, ReX will text your cell phone, email you and your physician and the person at home who’s helping you.”

After ReX’s prompt, the patient presses a button at the top of the device, lifts the bottom of the device to his or her mouth and then ingests the pill. ReX then asks questions customized to the patient’s treatment, like *Did you take your pill with food or without food?*

A Class I medical device registered with the U.S. Food and Drug Administration, ReX has two parts: a cassette, given to a patient by a hospital or specialty pharmacy after it has been filled with medication; and the device itself, which locks onto the cassette. Once locked, the patient only has access to the prescribed amount of medication at the prescribed time, which is helpful when monitoring the intake of potent drugs, such as opioids and oncolytics—expensive medications that target and kill cancer cells.

DosentRx, which completed the TMC Innovation Institute’s accelerator program TMCx, has opened its United States headquarters in the Texas Medical Center. The company is launching paid pilot programs and shopping ReX to hospitals and specialty pharmacies.

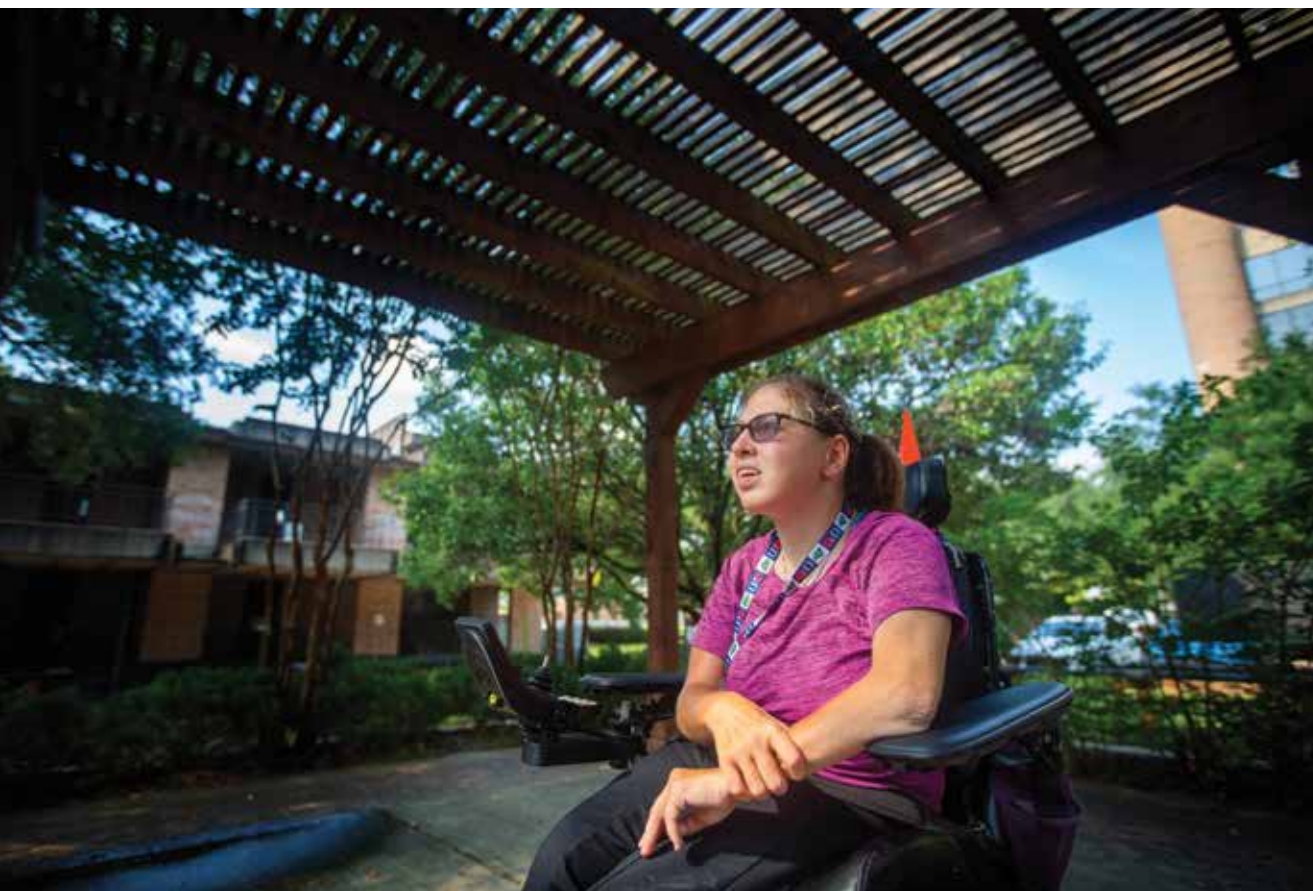
“ReX empowers patients to manage their own treatment,” Razinovsky said. ■



Treating Adults with Intellectual Disabilities

Improving the transition from pediatric to adult care

BY BRITNI R. McASHAN



Allison Rosenberg is a patient at Baylor College of Medicine's Transition Medicine Clinic.

Allison Rosenberg has been living independently since 2011. As an adult with mild cerebral palsy, the 27-year-old requires regular medical care from a team of providers.

Like one in every two individuals diagnosed with cerebral palsy—which affects a person's ability to move and maintain balance—Rosenberg has an intellectual disability, as well.

But accessing high-quality, affordable health care as an adult with an intellectual disability is a challenge.

Rosenberg aged out of the pediatric care and physician she grew up with when she turned 18.

"Me and my parents did research, and we wanted to find a

doctor who knew about my condition and was willing to help," Rosenberg said.

Their search led them to Baylor College of Medicine's Transition Medicine Clinic, launched and led by Cynthia Peacock, M.D. The clinic provides care and support to young adults with intellectual disabilities living in and around Houston as they shift from pediatric to adult care.

"About 85 percent of the population of people who have intellectual disabilities have a mild level of intellectual disability," Peacock explained. "Even though we have individuals in our clinic who have a mild intellectual disability, we tend to target the ones who are more

complicated. They tend to have more health care issues as well, so they have complex care."

Every year in the United States, more than 500,000 children with special health care needs turn 18 and transition to adult-oriented providers.

While the life expectancy of individuals aging with intellectual disabilities is increasing, it is still lower than the general population, particularly for individuals with more severe intellectual and physical disabilities and certain genetic syndromes, according to expert testimony provided to the U.S. Senate Committee on Aging.

"Most people with an intellectual disability may have a problem recognizing that they have a health

care issue and they need regular check-ups—maybe even more than the regular person—just to make sure those health problems are getting recognized," Peacock said. "Health care systems aren't set up for taking care of people with intellectual disabilities. Is the facility wheelchair-compliant? Can the patient get onto an exam table that meets the requirements for a wheelchair? Many times they don't get the exam they need and, depending on the severity of an individual's disability, they may not be able to communicate with a health care provider, so they have to rely on their families or caregivers."

Peacock also points out that people with intellectual disabilities are not dying from the same things the general population is dying from, such as heart disease and cancer.

"Their deaths aren't related to what we normally think of," she said. "It's more related to infections—people not recognizing them early on to get them treated—pneumonia and death related to a seizure disorder. Providers need to realize their mortality is earlier and that the morbidity that they are dying from is different from the general population."

Rosenberg, who sees Peacock for a regular checkup every six months, appreciates the relationship she and her doctor have built.

"My mom or my dad or both will go with me to doctor appointments, but usually my dad because he can lift me," Rosenberg said. "I like going to Dr. Peacock's office because they don't always ask the person sitting next to me the questions. They ask me personally, which I like. A lot of doctors assume people with disabilities can't vocalize so they turn to the care person that is with them. It bothers me."

From contained to fragmented care

Some adult patients with intellectual disabilities may not know how to read signage, understand the after-visit summary or comprehend the next steps needed for further care, Peacock explained.

"Pediatric systems are contained. If you want to see a specialist in the pediatric system, you go to the children's hospital. Once you get into adult care, it's fragmented and you can go anywhere and establish with anybody," she said. "The problem with somebody coming out of the pediatric health care system with Medicaid and an intellectual disability—they are going to struggle finding new providers."

With the exception of students studying pediatrics, medical students are not trained to work with individuals with disabilities because it is not a requirement in most schools, an issue that resonates in the dental community, as well.

"Pediatric dentists are trained to work with patients with autism and they are comfortable treating a person with autism even when they become an adult. But at a certain time, adult dental disease is quite different than treating baby teeth," said David Fray, D.D.S., associate professor at The University of Texas Health Science Center at Houston's School of Dentistry. "Pediatric dentists don't feel comfortable treating gum disease and doing certain procedures like root canals and molar teeth, and general dentists are usually not trained to work with that population."

Most children with intellectual disabilities transition well into adult dental care, Fray said, but some struggle.

"Maybe 20 to 30 percent of children in a pediatric office have trouble transitioning to adult dental care after the age of 30, and we are working to try to improve that," he added.

Patients with autism can experience sensory overload when visiting the doctor. Having sensitivity to light, being touched or experiencing a break in their routine can present major challenges.

"Just to come at them and stick the blood pressure cuff on them, can send them into ... they don't know why they are being approached," Peacock said. "You just need to show them what it looks like and say we are going to put this on your arm and then they are OK because they've seen it before."

Building a strong doctor-patient relationship is the key to success for caring for adults with intellectual disabilities.

"We want our patients to get used to us," Peacock said. "We might see them two or three times before we draw blood."

Because medical and dental schools don't offer specialties in treating adults with intellectual disabilities, these individuals fall

through the cracks.

"It's a forgotten population," Peacock said. "Once they get out of school, if they are not employed, who is going to notice if they aren't getting any health care?"

Fray and Peacock are working together to change that in the Texas Medical Center.

"To have an academic clinic like ours that just sees people with intellectual disabilities—they are relatively few and far between. There are maybe 20 across the country," Peacock said. "We're seeing more schools incorporate training into their curriculum. In our transition clinic, we train nursing students, social work students, residents in primary care, internal medicine, fellows who are doing adolescent medicine, pediatrics, neurology. It will be interesting if we can increase longevity for these individuals by increasing screenings and access to care." ■

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Distracting Kids Before Surgery

Video and virtual reality help young patients in pre-op and during initial stages of anesthesia

BY ALEXANDRA BECKER



Four-year-old Asher Temple watches the movie "Minions" before surgery at Texas Children's Hospital.

Charlie Pennell grew drowsy as he watched a pair of cartoon aliens projected onto the wall.

The 10-year-old, who held an anesthesia mask to his face, was happy and relaxed. The characters asked him to call out their names, and with each breath, the nitrous oxide slowly took effect as he fell asleep on the operating table.

This non-traditional practice is part of a new program at Texas Children's Hospital aimed at calming pediatric patients ahead of surgery. Known as the CHARIOT program—Childhood Anxiety Reduction through Innovation and Technology—the suite of entertainment options uses video and virtual reality to engage patients in the pre-operative setting and during the initial stages of anesthesia.

"The use of our various technologies has made it easier to focus our patients' attention away from an experience that is new and different and possibly frightening to them and onto something that they're much more comfortable with—and it helps them work through this experience to get surgical

procedures that they very much need," said Clint Fuller, M.D., a pediatric anesthesiologist at Texas Children's Hospital. "It's made it a much easier process both for them and for us."

The technology suite includes different options based on patient preference and maturity. For younger kids, a projector called BERT (Bedside Entertainment Relaxation Theater) can play a selection of popular movies, including "Moana," "Coco," "Finding Dory," "Cars" and "Minions."

"If there's a long wait-time and the patient starts to get anxious during the wait, it's a nice way to really distract them so their minds are not on the actual surgery or the fact that they're hungry from fasting," explained pediatric anesthesiologist Kathleen Chen, M.D., who leads the CHARIOT program at Texas Children's. "I usually tell them that today is your day, and whatever you want, we can give that to you."

BERT also projects interactive games, which are especially helpful for inhalation anesthesia

induction in the operating room. Patients like Charlie Pennell speak into an anesthesia mask while a member of the anesthesia care team controls the reactions of cartoon characters. An especially popular game involves a dragon named Sevo, who breathes fire on his food in order to cook it. As the patient breathes into the mask, Sevo breathes fire, eventually cooking his meal enough to gobble it down.

Most patients, however, are peacefully asleep by then.

"Our notorious patient groups are 2- and 3-year-olds—they're happy to see you out in the holding area, but then they want nothing to do with you when it's time to separate from their parents," Fuller said. "I played the Sevo game a few days ago with a 3-year-old, and she smoothly went to sleep, and, when she woke up, all she would talk about was her dragon. She talked about it the whole time and requested to play it again in the recovery unit. So, her whole perception of her visit here, the only thing she would talk about, was

eating Popsicles and her dragon. I think she had a pretty good experience.”

For older patients, Texas Children’s offers virtual reality goggles donated by Starlight Children’s Foundation that allow for a completely immersive and alternative experience outside the hospital.

“Little kids aren’t really candidates for the VR because they need to have control of their surroundings, they need to see mom and to know what’s going on. Whereas a 13-year-old, they may not care,” Chen said. “It’s 100 percent distraction and many older kids want that.”

In fact, Chen said, her team is doing a preliminary study analyzing how VR goggles can help during IV placement while patients are awake.

“Right now, the preliminary data suggests that

it minimizes pain or they’re not bothered by it,” Chen said. “So, the pain might be the same, but they’re happy to do it again so long as they have the virtual reality goggles.”

The CHARIOT program has been so successful in the anesthesia department that Texas Children’s is trying to determine how it could be useful in the clinical setting. Recently, Julina Ongkasuwan, M.D., pediatric otolaryngologist and director of the Pediatric Voice Clinic at Texas Children’s, employed BERT to help distract a patient during an oral exam that used a scope. Instead of asking the young girl to breathe into a mask, she asked her to open her mouth and say “Ahhhhhhhh” in order to entice the dragon to cook his food.

Because so many young patients have trouble

completing these exams, distracting them with an interactive game was an appealing idea.

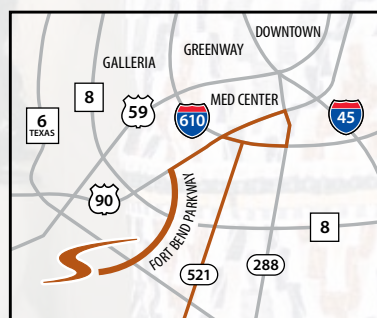
“I think it was really helpful, definitely with the anxiety, because we’re doing these invasive procedures where we’re putting scopes in their noses and their mouths and it’s kind of intimidating and scary for them,” Ongkasuwan said. “I think anything we can do to decrease the trauma is beneficial, especially for those kids who have to come repeatedly.”

The CHARIOT program originated at Stanford Children’s Health in California. Texas Children’s is one of the first hospitals in the nation to adopt the entertainment suite. The multidisciplinary program supports the work of many members of the hospital’s care team, including child life, anesthesiology, surgery and nursing. ■



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Saving Health Care in America

New book examines overtreatment, waste and decreasing the cost of health insurance

STAFF REPORT

Pediatric cardiologist Arthur “Tim” Garson Jr., M.D., shifted his career focus from medicine to health policy after witnessing firsthand what happens when the health care system falls short. Early in his career, Garson successfully treated a 5-year-old girl named Virginia (Ginny for short), and the two formed a lasting bond. But when Ginny was 19, she died after failing to fill her four heart-medication prescriptions because she was no longer eligible for Medicaid, the state-run insurance program for the poor. Ginny’s death had a profound effect on Garson. He changed his career and is now the director of the Texas Medical Center Health Policy Institute, where he focuses on developing health policy solutions that address the challenge of the uninsured and prevent people from dying for the reasons Ginny did.

Garson and TMC Communications Director Ryan Holeywell explore some of these ideas in their new book *Exposing the 20 Medical Myths: Why Everything You Know about Health Care Is Wrong and How to Make It Right*.

Today, America remains mired in fierce debate about the future of health care. In the book, Garson and Holeywell show how we got here, explaining what works in the U.S. health care system, what doesn’t, and how we can advance beyond the debate and truly develop a health care system that serves everyone. ■

This excerpt gathers material from several chapters:

Huntington, West Virginia, and San Francisco aren’t very similar places. If you were asked to list differences, you might start with the view. But the two cities have another key difference: Huntington’s cardiologists are some of the busiest in the nation. More than 91 out of every 1,000 Medicare patients in the region have undergone cardiac catheterization, a procedure in which a tube is inserted into part of the heart to diagnose or treat cardiac problems.

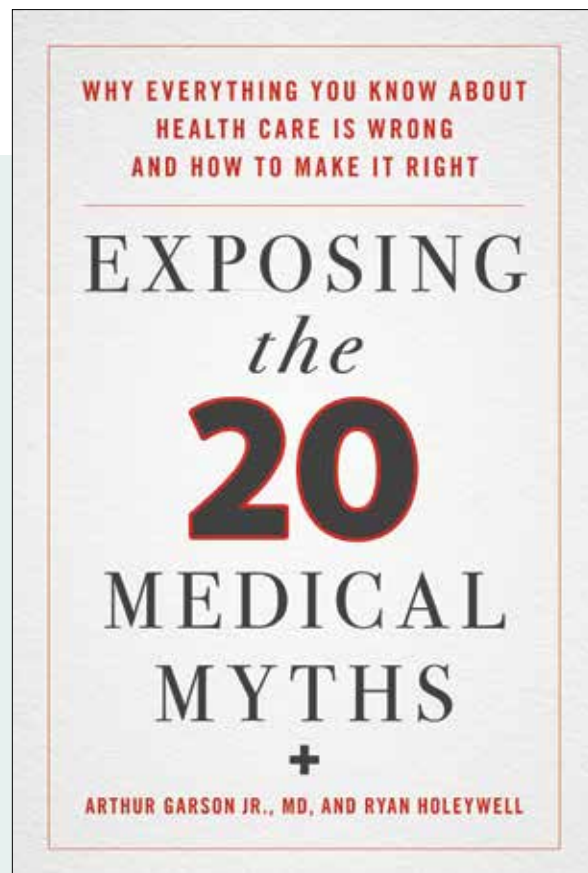
In San Francisco, by contrast, the catheterization rate is thirteen out of every one thousand. So why are residents of Huntington getting the procedure at seven times the rate of San Franciscans? It’s not because they’re sicker. In fact, it’s likely that many in Huntington didn’t need the procedure in the first place. What’s happening is the West Virginians are being overtreated and getting care they likely don’t need. This is an example of physician-induced demand, where physicians recommend treatment that improves their incomes—and patients dutifully do what the doctor suggests.

Other examples like this abound. Dr. Garson recalls the time he was in the waiting room of a doctor’s office. He overheard the doctor speaking with a salesman who was selling him an expensive piece of imaging equipment. The two forgot to shut the door during their meeting. “You’ll have to do at least seven of these per day in order to make money,” the salesman said. “No problem,” said the doctor, leaving the entire waiting room aghast.

These examples are only the tip of the iceberg. You’ve almost certainly experienced more subtle forms of overtreatment in the form of administrative waste. You know what happens when you make an appointment with a doctor for the first time: First, you give all your information to an employee on the phone, who takes down your name, your insurance information, your symptoms, and other information. Then, when you get to the doctor’s office, you give it to the front desk again. Then, when you’re brought to the examination room, you repeat it all to the nurse yet again. It’s not just annoying; it’s also a waste of your money. You’re paying for that same task to be repeated over and over again.

There are other reasons for waste, too. A big one is the pricing failures that ensure medical care in the U.S. costs more than care in any other industrialized country. Your American MRI can cost more than \$3,000, but in Australia, it costs just \$215 (the American MRI isn’t any “better”). Hip replacements in the U.S. cost about \$29,000 on average—about 80 percent more than they cost in the UK. And it’s not just the difference in cost, it’s the volume. Americans undergo MRI exams at almost triple the rate of Australians. We get replacements 45 percent more often than the French.

So how much waste is there? According to Donald Berwick, administrator of Medicare and Medicaid during the Obama administration, waste accounts for about a third of the dollars spent on medical care in the United States today. That represents about \$1 trillion annually. The vast wasteful expense isn’t just frustrating because it’s inefficient but also because there are already limited dollars to spend on health care, and in this country, we fight viciously over how to spend them.



Exposing the Twenty Medical Myths: Why Everything You Know about Health Care Is Wrong and How to Make It Right is scheduled to be published in Oct. 2019 by Rowman & Littlefield.

AUTHOR EVENT

When: 5:30 p.m. Tuesday, Oct. 15, 2019

Where: Third Coast Restaurant
John P. McGovern Commons
6550 Bertner Ave., 6th Floor

Details: Arthur Garson, M.D., and
Ryan Holeywell will discuss the book

RSVP: twentymedicalmyths.eventbrite.com

To put these numbers into perspective, the cost to cover the uninsured is between \$150 and \$200 billion per year; if we could save just 15-20 percent of the waste, we could cover the uninsured. Will we ever be able to reduce the cost of medical care? Sure we can. But it won't be easy. To reduce waste, Berwick said, we must "keep processes, products, and services that actually help customers and systematically remove the elements of work that do not." Seems simple enough, right? "The challenge in removing waste from U.S. health care," he goes on, "will be to construct sound and respectful pathways of transition from business models addicted to doing more and more to ones that do only what really helps." These cost-saving measures also improve value—that is, they do not allow quality to suffer.

The cost of health care must be reduced significantly. We often hear talk of the need to "bend the cost curve"—meaning that it's acceptable to have prices increase, but the rate of increase just needs to slow down. This is not good enough. If we attack some of that waste successfully, we will decrease the cost of care, not just bend it. Why does this matter so much? Today, more than 10 percent of adults in this country who aren't eligible for Medicare still don't have health insurance. To bring that number down, we have to make health insurance more affordable. Decreasing the cost of health care is the best way to decrease the cost of health insurance, and ultimately, decrease the number of uninsured people in this country.

ANNUAL WASTE
IN THE U.S.
HEALTH CARE SYSTEM (\$ Billions)

Administrative waste / inefficient billing procedures	\$248
Overtreatment / ordering unnecessary tests and procedures	\$ 192
Fraud and abuse / overbilling	\$ 177
Pricing failures (U.S. prices higher than the rest of the world)	\$ 131
Failures of care delivery (safety issues)	\$ 128
Failures of care coordination (hospital readmissions)	\$ 35
Total waste	\$ 911

Source: "Eliminating Waste in US Health Care," The Journal of the American Medical Association (JAMA), April 11, 2012 (online first)



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DeBakey High Grads: Where Are They Now?

Some are still here, working in the medical center

BY BRITNI R. McASHAN

When the High School for Health Professions opened at the Texas Medical Center in 1972, it was the first school of its kind in the country. The brainchild of the late, famed surgeon, Michael

E. DeBakey, M.D., the high school adopted his name in 1996.

Started through a partnership between Baylor College of Medicine and the Houston Independent School District, the high school is

designed for students who want to pursue careers in medicine and science.

“My dad wanted to have a high school under the wing of Baylor College of Medicine,” said

RONALD TIMOTHY COTTON, M.D.

Valedictorian, Class of 1998

PROFESSION | Assistant professor in the division of abdominal transplantation in the Michael E. DeBakey department of Surgery at Baylor College of Medicine and surgeon at Texas Children's Hospital, Baylor St. Luke's Health and the Michael E. DeBakey VA Medical Center - Houston.

Cotton participated in the Houston Premedical Academy Program—an eight-year pipeline that takes DeBakey graduates through undergraduate studies at the University of Houston and then medical school at Baylor College of Medicine. Originally the program accepted eight students each year, but now accept six students a year.

“It's surreal coming full-circle from the high school that was Dr. DeBakey's namesake and then being a faculty member at Baylor in the department that is his namesake in the medical school that he really built in a lot of ways,” Cotton said.



Denis DeBakey, son of Michael E. DeBakey. “He thought that it was important for all young people in Houston to have access to a school that could prepare them for health professions. He wanted the school to look like Houston and have the same diversity that Houston had.”

Nearly 50 years later, DeBakey’s vision has come to fruition, and some graduates of the state’s top-rated public high school have remained in the medical center.

Ronald Timothy Cotton, M.D., valedictorian of the Michael E. DeBakey High School for Health Professions class of 1998, is now an assistant professor in the division of abdominal transplantation in the Michael E. DeBakey department of Surgery at Baylor College of Medicine.

“I’m from Houston and I grew up about a mile away from the school, so I always knew about it,” Cotton said. “I was inspired to go to medical school by my uncle. He was the first physician in my family and his medical and surgical education kind of coincided with me growing up. I thought what he was doing was the greatest thing on earth. I went into high school thinking I had an interest in medicine and the school really fostered it from there.”

Cotton still remembers the first time he saw a human heart beating in a patient’s open chest; he and other students were shadowing a physician at The University of Texas MD Anderson Cancer Center.

“I remember like yesterday going with a cardiologist at MD Anderson at the time, him having to do an intraoperative ultrasound of the heart during an open heart surgery. He took us in there with him and I remember ... looking at the heartbeat in front of me with the chest open and it was just amazing,” Cotton said. “You don’t know what

you don’t see and I think that’s what the high school represents with those early exposures and high, rigorous standards and access to higher education. It shows you what you can be. No matter where you are from or what your background is, you can see that and aspire to something bigger than where you are at the time.”

In addition to the opportunity to shadow practicing care providers in the medical center, students at DeBakey High are subject to a rigorous curriculum and clinical rotations.

Agnes Perry, the school’s fourth principal, explained that students are now required to complete five

years of math, at least one advanced science course, three years of a foreign language and four years of health science.

Judith Campbell, M.D., a graduate of the class of 1977, now serves as the medical director of infection control and prevention at Texas Children’s Hospital. She is also a professor at Baylor College of Medicine. Campbell dreamed of attending the high school after watching a documentary about it while living in Chicago. As fate would have it, her father was transferred to Houston in 1973 and she began classes at the school the next fall. ➡



JUDITH CAMPBELL, M.D. Class of 1977

PROFESSION | *Medical director of infection control and prevention at Texas Children’s Hospital and professor in the section of infectious diseases at Baylor College of Medicine.*

Today, Campbell is in charge of preparing Texas Children’s for the deadliest of disease outbreaks. She believes her microbiology class in high school paved the way for her future career.

“One of my favorite classes in high school was microbiology and that is a class that would not have ordinarily been offered in the ’70s in any other high school,” Campbell said. “I was able to study bacteria in high school and that is really an integral part of what I do as an infectious disease physician and infection control professional. I study germs, so I think very fondly of Mrs. Charlotte Bryant, who taught that class in high school.”



AMELIA QUIZON, RN

Class of 1996

PROFESSION | Registered nurse at The University of Texas MD Anderson Cancer Center

When it came time to determine where she would go to high school, Amelia Quizon and her mother, now the DeBakey High secretary, decided DeBakey was the right place for her.

"When I was in high school, we did clinicals at Ben Taub," Quizon said. "I was exposed to psych patients. You can't have that experience anywhere else. At DeBakey, they really show you what it means firsthand to be with a patient. I appreciated it because I got hands-on experience with it and I was able to realize, yes, this is the profession I want to go into."

"It was literally a dream come true for me, because the documentary talked about exposure at the high school level to higher-level science classes, but also exposure to the clinical side of medicine, allowing [students] to shadow and work alongside various health professionals," Campbell said. "I think the exciting thing was to have a mixed educational experience—academic rigor, but also kind of glimpse into the future of what you could do if you committed yourself to that rigor."

Amelia Quizon, a graduate of the class of 1996, is now a registered nurse at MD Anderson.

"No one in my immediate family had ever been to college, but I always knew I wanted to be a nurse," Quizon said. "My zoned school was nowhere near as excellent of a school as DeBakey is, so I wouldn't have had the opportunities that DeBakey offered me. I think with any profession, if you're not exposed to it, you don't know what it really entails."

At the same time, that early, hands-on clinical exposure in high school may dissuade some students from a future in medicine. But that's not a bad thing.

"I think our curriculum helps students clarify whether or not they want to go into medicine," Perry said. "Even if they don't go into medicine, they can still do other things—they can be an accountant, be an

attorney, they can even do other careers within the medical center without working with patients."

For Amelia Quizon's husband, Paul Quizon, a graduate of the class of 1997, the integrated health science curriculum helped him realize that he did not want to be on the clinical side of health care. Today, he works as a senior financial analyst at MD Anderson.

"Most people came into DeBakey wanting to go into the medical field, and a lot of people decide during the clinical rotations that medicine is their dream. But for me, it was the opposite," Paul Quizon said. "The school is very demanding, so even if you don't go into medicine, you are still very well prepared when you get to college."

Over nearly five decades, the campus has changed locations and the student body has grown. What began with 45 students taking classes in the Cullen building at Baylor College of Medicine has become a nationally acclaimed high

school of nearly 1,000 students with its own five-story building in the Texas Medical Center.

The school relocated from a campus near State Highway 288 and North MacGregor Way to 2545 Pressler Street in the medical center in 2017.

"The new campus gives us more access to the institutions," Perry said. "At our old location, our students had to be bussed every time there was an opportunity to come over. Dr. DeBakey always thought we should be ... in the middle of the medical center."

The new, 197,000-square-foot building boasts state-of-the-art lab equipment, mock hospital rooms and traditional classrooms.

Although the high school does not have a formal alumni association and has not tracked the whereabouts of all of its alumni, the school does know that, all told, 197 students have matriculated through the Houston Premedical Academy. This pipeline program, which was started

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PAUL QUIZON
Class of 1997

PROFESSION | Senior financial analyst at The University of Texas MD Anderson Cancer Center

Paul Quizon realized during his time at DeBakey High that the clinical side of health care was not for him. Although he did not want to become a clinician, Quizon said it was an easy choice to work in the medical center.

"I started doing rotations in the medical center my sophomore year, so I felt very comfortable working in the medical center," Quizon said. "I wanted to get into medical administration and work my way up, so I got into finance. I work on the research side of things in the same department as [Nobel laureate] Dr. James Allison. Seeing his accomplishments has been so exciting for me."

in 1996 by the DeBakey Medical Foundation, takes a select group of DeBakey graduates through undergraduate studies at the University of Houston and then to medical school at Baylor College of Medicine.

Denis DeBakey said one of his father's proudest accomplishments was the establishment of the high school.

"Whenever anyone would ask my dad, 'What do you think the most important thing is you have done in your life?' he would always say, 'It's my contribution to education and the training of new doctors and the process of bringing young people into the medical profession and seeing them thrive. That is a legacy that will last forever.'" ■



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1 | Researchers and physicians at Baylor College of Medicine and Baylor St Luke's Health who have teamed up with InformAI to investigate the use of artificial intelligence to match donated organs with patients, include **ABBAS RANA, M.D.**, assistant professor of surgery in Baylor's department of surgery, division of abdominal transplantation; **JIM HAVELKA**, InformAI CEO; **JOHN MOORE VIERLING, M.D.**, professor of medicine and surgery in Baylor's division of abdominal transplantation, chief of hepatology and director of Baylor Liver Health; **STUART CORR, PH.D.**, assistant professor and director of Baylor's Interdisciplinary Surgical Technology and Innovation Center (INSTINCT); and **ROWLAND PETTIT**, an M.D. and Ph.D. student at Baylor College of Medicine.

2 | **TRACEY L. SMITH, PH.D.**, associate professor at Baylor College of Medicine in the Menninger Department of Psychiatry & Behavioral Sciences and investigator for the Center for Innovations in Quality, Effectiveness and Safety (IQeST) at the Michael E. DeBakey VA Medical Center, received a Presidential Citation from the American Psychological Association.

3 | **ARMANDO E. COLOMBO** was named president and CEO of The Menninger Clinic. Colombo, who was executive vice president and CEO of Sheppard Pratt Health System in Maryland, joins Menninger's executive team on September 16.

4 | **TRICIA ZUCKER, PH.D.**, Harriet and Joe Foster Distinguished Professor at The University of Texas Health Science Center at Houston (UTHealth) and associate director of the Children's Learning Institute at McGovern Medical School at UTHealth, was awarded the Presidential Early Career Award for Scientists and Engineers, the highest honor bestowed by the U.S. government to early career researchers who show exceptional promise for leadership in science and technology.

5 | **RICE UNIVERSITY** welcomed more than 950 new students to a weeklong orientation program in August. Each year, freshmen make the ceremonial march through the Sallyport (a stone entryway) into the Academic Quad as fireworks fill the sky.



Credit: Nos. 1, 2, 3, 4, 6, 7, 9, 10, 11, courtesy photos; No. 5, Jeff Fitlow, Rice University; No. 8, Allen Kramer, Texas Children's Hospital



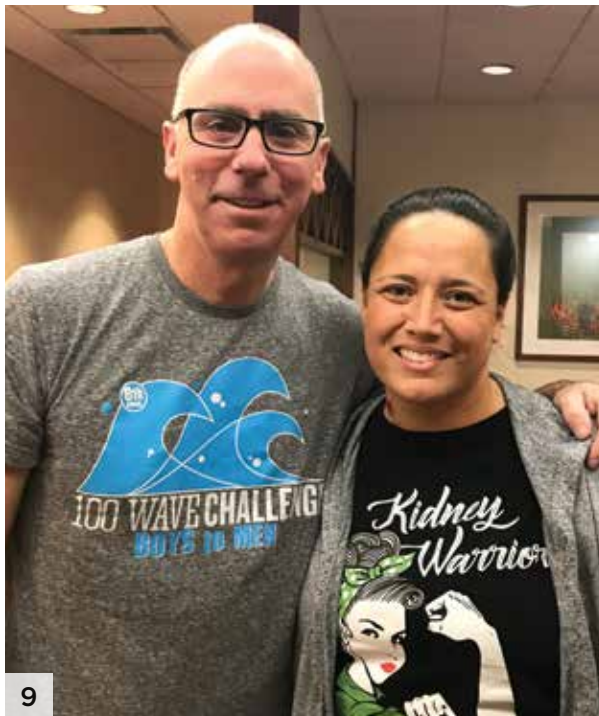
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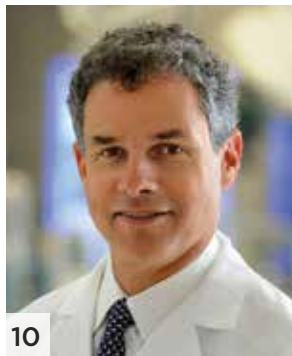
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6 | HARDEEP SINGH, M.D., MPH, professor at Baylor College of Medicine and chief of the Health Policy Quality & Informatics Program at the Center for Innovations in Quality, Effectiveness & Safety (IQEST), was selected by Expertscape as one of the top 0.1 percent of scholars writing about safety over the past 10 years.

7 | ELLEN M. FRIEDMAN, M.D., professor of otolaryngology and director of the Center for Professionalism at Baylor College of Medicine, was elected to the Academy for Professionalism in Health Care Board of Directors as an at-large member.

8 | TEXAS CHILDREN'S HOSPITAL hosted **HIS EMINENCE THE 7TH LING RINPOCHE**, the reincarnation of His Holiness the Dalai Lama's senior tutor, along with members of the Drepung Loseling Institute of Texas in late July. His Eminence spoke to hospital staff about practicing compassion in their roles, led them through a guided meditation and then offered blessings.

9 | Earlier this year, Holiday Bowl CEO **MARK NEVILLE** donated a kidney to **TASHA HERRERA**, who was his family's babysitter in San Diego, California for more than a decade. Herrera, who now lives in Houston, posted a call for donors on Facebook. After detailed tests confirming that Neville was a match, the **TRANSPLANT CENTER AT MEMORIAL HERMANN-TEXAS MEDICAL CENTER** performed the transplant. Read the story at tmcnews.link/bowl.

10 | TODD K. ROSENGART, M.D., professor and DeBakey-Bard Chair of Surgery at Baylor College of Medicine, was elected to the board of directors of the American Association for Thoracic Surgery.

11 | RIKHIA CHAKRABORTY, PH.D., assistant professor of pediatrics – oncology at Baylor College of Medicine, has received a Peer Reviewed Cancer Research Program Career Development Award, part of the Congressionally Directed Medical Research Programs that foster novel approaches to biomedical research.

12 | TMCx, the TMC Innovation Institute's accelerator program, welcomed its ninth cohort of companies in August. This medical device cohort consists of 17 companies—10 international and seven in the United States, four of which are Houston-based.

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TBoatwright@tmc.edu

713-791-8835

9/17

Evenings with Genetics: Osteogenesis Imperfecta

Seminar with V. Reid Sutton, M.D.,
and Vinitha R. Shenava, M.D.

Tuesday, 6:30 – 8:15 p.m.

Children's Museum of Houston
1500 Binz St.

geneticerevenings@bcm.edu

832-822-4280

9/10

Rice University Farmers Market

Tuesdays, 3:30 – 6:30 p.m.

Rice University

Parking lot entrance 13B

5600 Greenbriar Dr.

ricefm@rice.edu

9/28

Eyes Have Not Seen, Ears Have Not Heard: Breakthroughs in Cancer Research

Church health conference, hosted
by the Center for Community
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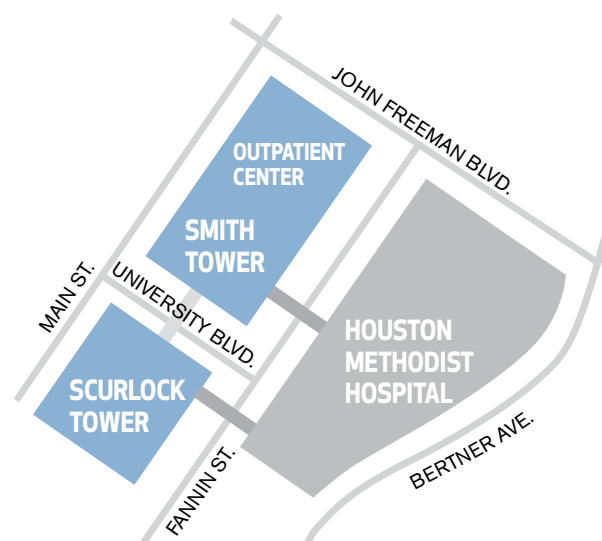


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