

# TMC | PULSE

NEWS | TEXAS MEDICAL CENTER — VOL. 4 / NO. 11, DEC. 2017 – JAN. 2018

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## **WILLIAM F. McKEON**

*President and Chief Executive Officer, Texas Medical Center*

Every aspect of the best clinical care that exists in the world today started with the same process: Clinical research that ensures medical advances are ethically sound, safe and effective.

More clinical research takes place at the Texas Medical Center than at any other campus in the world. We take pride in the clinical research that has been a bedrock of this medical city for 70 years, and it's the reason we attract the world's top scientists and clinicians. The best clinical care is found adjacent to the leading research programs, as scientists and clinicians are constantly searching for the best solutions for their patients. Often, the most advanced therapy may only be available as part of a clinical trial, so it is important to patients and their families to have access to all treatment alternatives.

But clinical research here has a big challenge: It can be exhausting, expensive work managing the bureaucracy and legalities involved. Today, if industry has a promising new medical device or therapy and wants all 10 million patients at the Texas Medical Center to have access to it, it would take upwards of two years to sign all the necessary paperwork at each of the 29 institutions here that conduct clinical research.

Our new TMC Clinical Research Institute, which debuts in 2018, will change all of that.

The institute will create a unified, streamlined interface to industry. Companies can sign one set of documents that will be supported by all of our research institutions. Once we establish our unified processes, the Texas Medical Center will immediately become the largest, most efficient multi-institutional clinical research platform in the world. The new institute will not only complement individual research programs, but will also provide researchers and patients access to multi-institution trials, further elevating all programs.

Back in 2014, when all of the CEOs and leaders of the Texas Medical Center formulated the TMC Strategic Plan, clinical research emerged as a leading opportunity. After working doggedly to refine the concept, we finally have the infrastructure to bring it to reality.

Major industry leaders are already lining up in anticipation of the TMC Clinical Research Institute launch. It's yet another example of the way collaboration allows us to transcend our individual capabilities and advance the care of our patients.

A handwritten signature in black ink that reads "William F. McKeon". The signature is fluid and cursive, with a long, sweeping underline.

## **TMC | PULSE**

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ON THE COVER: Carlos Correa of the Houston Astros hits a two-run homer in the seventh inning of Game 5 of the 2017 World Series.

(Credit: Alex Trautwig/MLB Photos via Getty Images)



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# A Year in Space

Astronaut Scott Kelly answers questions about his new memoir

BY ALEXANDRA BECKER

In 2016, astronaut Scott Kelly returned to Earth after a record-breaking 340 consecutive days aboard the International Space Station. Kelly's remarkable voyage is detailed in his new memoir, *Endurance: A Year in Space, a Lifetime of Discovery*, an exhilarating saga that looks forward to the future of spaceflight—including an eventual mission to Mars.

Kelly's book takes readers from his early years as an insouciant kid who took every risk he could "because everything else was boring," to the day his life changed after spotting a Tom Wolfe novel at his college bookstore, to his time as a Navy test pilot—all of which ultimately propelled him toward a career at NASA. A modern-day trailblazer, Kelly's time on the International Space Station is already proving invaluable to scientists studying the effects of long-term space travel on the human body.

*Pulse* emailed Kelly, busy with an international book tour, 10 questions:

**PULSE |** *In the book, you say the sacrifices you have made for space travel have been worth it because you have helped advance human knowledge. But how concerned are you about the long-term health issues you may experience because of your time in space? And will this be an issue for space travel to Mars?*

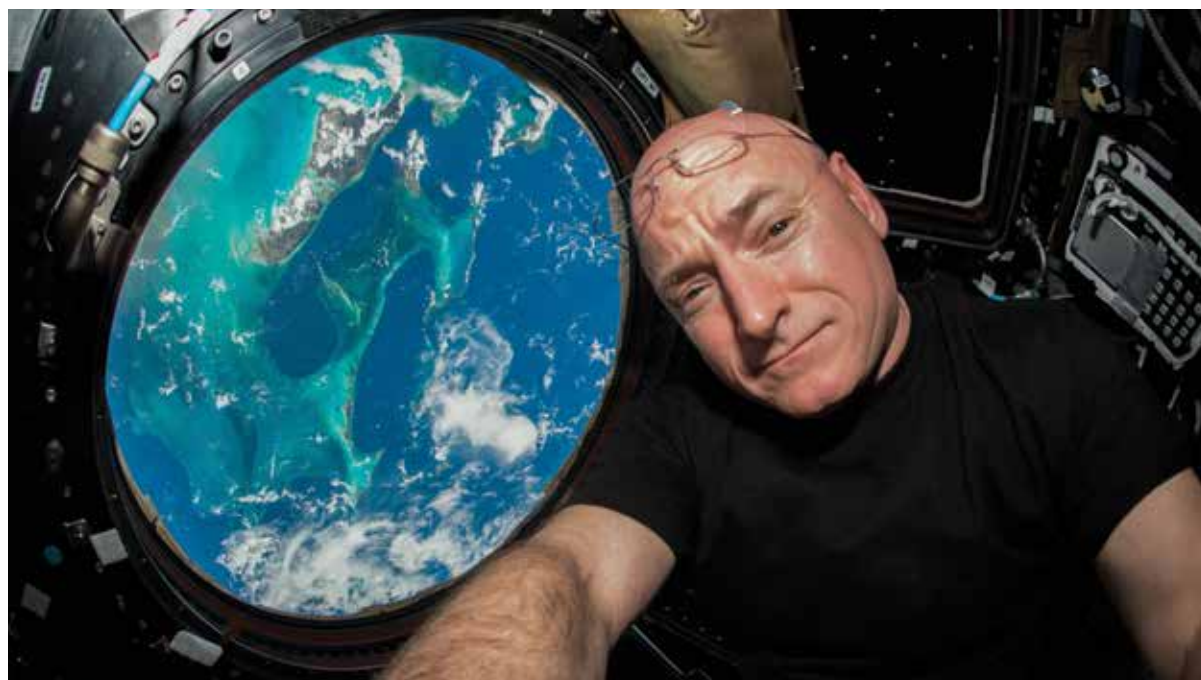
**SK |** The radiation could be an issue, but I don't dwell on stuff I have no control over. On a trip to Mars, radiation is a much larger concern as we are away from the radiation protection afforded by the magnetic field of Earth.

**PULSE |** *Would you say understanding the effects of long-term space travel on the human body is one of the biggest hurdles to getting to Mars? A lot can go wrong. You write about fixing a tooth, pulling a muscle while exercising, CO2 levels and some scary swelling after your return to Earth.*

**SK |** Physical effects are a concern. That's why we did this year-long flight. The biggest hurdle is the money it will take for a human mission to Mars.

**PULSE |** *You were in an enclosed and foreign environment during your year in space, and you coped in various ways. In regard to mental health, what is your advice for those who need guidance when faced with a challenging situation?*

Credit: Courtesy of NASA



Astronaut Scott Kelly aboard the International Space Station.

**SK |** Focus on the stuff you can control and ignore the stuff you can't. This philosophy works for me both professionally and personally.

**PULSE |** *You say the human body and mind are the weakest links in the chain that makes spaceflight possible. How can we strengthen those links?*

**SK |** Research.

**PULSE |** *You are very candid in the book about your personal and professional life. Was this a conscious decision?*

**SK |** Yes, that was on purpose. I think a story with personal anecdotes and honesty is more relatable to the reader—it makes for a better story.

**PULSE |** *You write about visiting your grandmother in her nursing home and thinking about what sort of life you would have to look back on. This was a turning point for you. Could you spin that epiphany into some solid advice?*

**SK |** One bit of advice I've heard that seems to make sense is treat every day like it's your last.

**PULSE |** *Spaceflight helps advance scientific discoveries. In regard to medicine and health care, what important advancements do you hope to see in your lifetime?*

**SK |** I hope our exploration of space will allow us to appreciate Earth more. It would be great if we could cure cancer, too.

**PULSE |** *Is there anything else you'd like to add in relation to science and medicine?*

**SK |** I think people would be surprised by the extent of the medical training astronauts get, from advanced cardiac life support to dentistry.

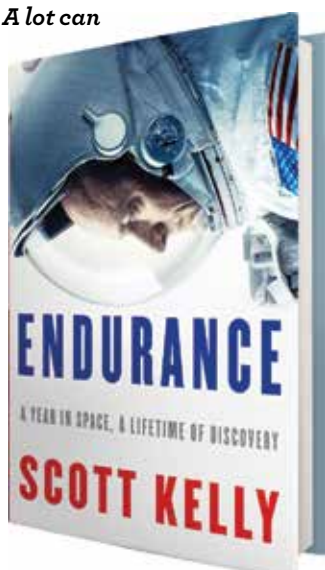
**PULSE |** *What has surprised you most about your book's reception or about the book tour?*

**SK |** I'm happy people like the story. I suspected they might. I didn't know much about book tours, but I like meeting the people who come out.

**PULSE |** *You write that attempting something difficult is the only way to live. Now that you have retired from NASA, what difficult goals will you work toward?*

**SK |** Therein lies my problem. I need to figure that one out—maybe next year. ■

*This interview has been edited for clarity.*



# The Curious Case of a Cat Named Patches

*How a diabetic teenager's observation made its way into a medical paper*

BY ALEXANDRA BECKER

One evening in 2011, Michael Opiela's family pulled into their garage after a night out for dinner. When Opiela, now 18, stepped out of the car, he was alarmed. His adopted feral cat, Patches—whom Opiela adored—was not acting like herself. Instead of her typical friendly demeanor, purring and rubbing her forehead against his legs, she seemed distraught. She circled around him and mewed repeatedly. Did she want attention? Was she hurt? Was she trying to tell him something?

Suddenly, Opiela felt flushed and faint. He stepped inside to check his blood sugar, suspecting that he might be having a hypoglycemic episode—a common condition associated with the Type 1 diabetes he'd lived with since his diagnosis at age 9. He squinted to look at the screen: It was 40 mg/dl, which is considered dangerously low.

Patches was trying to warn him.

At first, Opiela thought it was a coincidence. How could Patches have known? But then it happened again. And again.

Opiela told his doctor, Michael Yafi, M.D., about his cat's strange behavior, and was surprised when his doctor didn't laugh it off.

"As a pediatrician, I tend to believe what people tell me—kids, families, moms—and I actually believed that. I knew that animals have a great ability to detect conditions in human beings," explained Yafi, division director of pediatric endocrinology at McGovern Medical School at The University of Texas Health Science Center at Houston (UTHealth) and a pediatric endocrinologist at Children's Memorial Hermann Hospital.

His interest piqued, Yafi enlisted one of his fellows to help him research the topic. The two sifted through published medical papers and abstracts and identified numerous instances of animals—mostly dogs, but also cats and horses—who interacted with humans in relation to their chronic illnesses.



*Michael Yafi, M.D., division director of pediatric endocrinology at McGovern Medical School at UTHealth and a pediatric endocrinologist at Children's Memorial Hermann Hospital, included a testimony from patient Michael Opiela in a paper.*

This is in addition to animals who are trained to help people with medical conditions.

In the specific case of hypoglycemia, Yafi explained that while pets can easily recognize its symptoms—fatigue, irritability and delayed cognition—their superior olfactory senses also come into play.

"Animals do have a very advanced sense of smell," Yafi said. "For that reason, they can actually feel when the patient is hypoglycemic. When you become hypoglycemic, there are counter-regulatory hormones that your body secretes, and animals can feel that, they can smell that."

Yafi hoped to present the case to

colleagues, so he asked Opiela to write about his experiences with Patches. Impressed with his candid words, Yafi included the teen's testimonial in the abstract and made Opiela a co-author on the paper, hardly a standard move in the world of clinical research.

It was difficult at first for Yafi to find a medical authority willing to publish it, to find, in his words, one "that would believe both of us." But he persisted and the paper was finally accepted at an international conference in Turin, Italy.

Titled "My Cat and My Diabetes," it won best abstract.

"I don't think there are many patients that are co-authors on medical abstracts," Yafi said. "This is a positive thing; it's positive feedback for the patient. With chronic conditions like diabetes, you get to know the families, and I always try to explore different aspects of the patients' lives and not focus only on diabetes. We have to believe our patients. We have to let our patients share their stories with us. It's not just, 'Show me your blood sugar and tell me your insulin.'"

Opiela's story was picked up by the news and shared on social media. Soon after, Yafi was flooded with emails and

phone calls from individuals who've had similar experiences. One woman described how her cat would come up to her mouth and mew incessantly; unbeknownst to her, she had diabetes, and the ketones in her breath emitted a particular smell. Another woman wrote to him about her cat's odd obsession with her neck and how she was ultimately diagnosed with thyroid cancer.

"Stories like this help other people share," Yafi explained. "When you have a chronic illness, that can be devastating. It can be consuming for children, for families. When you have a way of thinking outside the box, I think it helps everyone. I really feel that one of my missions in helping my patients is to make their story known to other people and to other kids. In my opinion, I think it's a great idea to be positive about diabetes. This is in contrast to some kids who do not want anyone in school or their friends or family to know that they have diabetes. Here, we have someone who is sharing his story with other kids and with the world."

Of course, not all cats have this knack for diagnostics, or if they do, they don't all choose to make it known. But there is mounting anecdotal evidence that strange behavior in a pet could be more than a coincidence, and in the case of diabetes-induced hypoglycemia, having an extra alert system could be the difference between life and death. At the very least, it creates a special bond that may mean the world to an individual who feels isolated by his or her disease.

Opiela will soon be heading to college, his sights set on someday helping others like himself.

"I'm thinking of studying biomedical engineering because of my condition, so I can help develop medical devices to help improve care for Type 1 diabetics like myself," he said.

As for Patches?

"I'd definitely miss her, but I think we'll both be fine," Opiela said. "I'll come visit, of course!" ■



*Michael Opiela with his cat, Patches.*





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**STEPHEN KLINEBERG, PH.D.**, is a professor of sociology at Rice University and founding director of the Kinder Institute for Urban Research. In 1982, he and his students launched the annual Kinder Houston Area Survey to track shifts in demographic patterns, economic outlooks, beliefs and experiences of Harris County residents. Klineberg will publish a book in 2019 about this ongoing research.

**Q | You were raised and educated in the Northeast, earning your Ph.D. from Harvard University. What brought you to Houston and why have you made it your home?**

**A |** Rice University brought me here, initially. When I came in the '70s, I didn't like Houston very much. It was a very business-dominated city. Everyone was congratulating themselves on how much money they were making in the oil business, with no attention being paid to public spaces. *So what if it's ugly! Who cares if it smells! It's the smell of money!* But Rice was wonderful. My wife was finishing law school, so we said we'll come for a couple of years. And then I got to like Rice more and more and I got to like the city better—and it turned out to be a fascinating and consequential city in America with the collapse of the oil boom and the recovery in the 21st century.

**Q | Why did you launch the survey in 1982 and why have you continued to do it?**

**A |** It was a one-time survey; it never occurred to us to do it again. I was teaching a research methods class to sociology majors and I do survey research, so I thought, I'll have them get their hands dirty. Houston was this booming metropolis with growing concerns about traffic, pollution, crime. What kind of city are we building with all of this affluence? I figured, let's do a survey on the social costs of growth. What happens to all of the other aspects of life when your total commitment is to make as much money as fast as you can? We did the survey, analyzed the data and it showed some very interesting kinds of patterns. And then two months later, the oil boom collapsed. One hundred thousand jobs were lost in Houston by the end of 1983, in a city

that had known nothing but economic boom from its beginning. So we said, we better do this survey again.

**Q | Are there any significant changes the survey has charted over the past 35 years?**

**A |** Two things have changed. One is increasingly positive attitudes toward immigration and diversity, and the other is increasing support for gay rights. We can now ask the question: Did that change occur because people changed their minds, or is it because new, younger folk are coming into the world with different views than us older folk? And we can answer that question because we have been asking these questions since the '90s, so we can follow the baby boomers. And the answer is they have not changed their minds. They see those things the same as they did 20 years ago. What has changed dramatically is younger Anglos coming of age in the last 10 years are experiencing a different reality than us old Anglos who came of age in the '60s and '70s.

**Q | How is the survey conducted?**

**A |** We do the survey over the phone. It is a random sampling of Harris County residents. We weight the data at the end, because we know the percentage of African-Americans, Latinos and Asians in Harris County. We know levels of education, we know ages from the census, so we can weight the result. No matter what we do, we are going to oversample older Anglos who are at home and happy to talk to you, and miss out and undersample younger Latinos who are more likely to have cell phones. So you weight the data. You get a little extra weight if you are Latino

and young. And the overall picture comes out to be very close to what you would expect it to be.

**Q | Technology has changed a lot since you started this survey. Has that made collecting data easier or more challenging?**

**A |** It was a whole lot easier 30 years ago. Everybody had landline phones. It was none of this caller ID or answering machines. The phone rings, you answer the damn phone! We were getting 80 percent response rates. But now, the response rates have gone down dramatically, not because people refuse to answer the questions, but because they refuse to pick up the phone for anybody. The response rates have dropped to 30-35 percent.

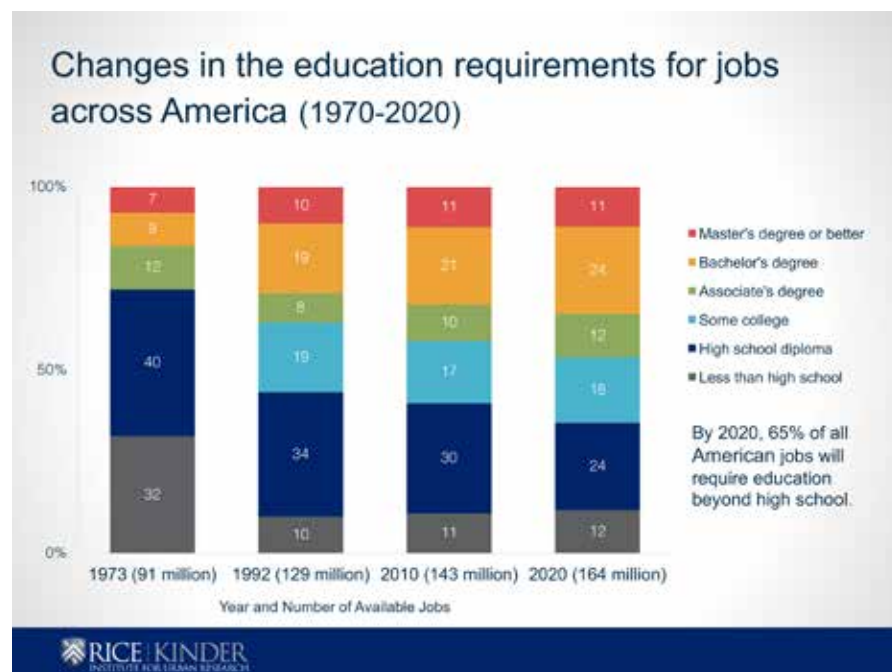
**Q | After analyzing the results of the survey, how do you think Houston could improve?**

**A |** All of the growth after 1982—after the collapse of the oil boom—has been the influx of African-Americans, Latinos and Asians. And this biracial, southern city dominated by white men has become the single most ethnically diverse city in the country. If Houston is going to make it, we all understand it has got to become a destination of choice, a place where the best and the brightest people in America who can live anywhere will say, 'I want to live in Houston, Texas.'

**Q | How have the city's shifting demographics impacted education, the economy and the workforce?**

**A |** We are in the midst of an epic transformation, where 76 million babies who were born in that incredible period after World War II have been this bulge rattling through the American system. The leading edge of those 76 million babies turns 71 this year, and we are going to watch a literal doubling of the number of Americans over 65 every day between now and 2030. And they are being replaced by a very different generation. Instead of being an amalgam of European nationalities, we will be a microcosm of the world—nowhere more clearly seen than in Houston.

(continued)



Source: Georgetown University Center on Education and the Workforce, 2014. "Recovery: Job Growth and Education Requirements through 2020." Retrieved from [cew.georgetown.edu/recovery2020](http://cew.georgetown.edu/recovery2020), on July 27, 2015.







Everybody in Harris County under the age of 20 will be the future of Houston. Seventy percent are African-American and Latino and only 22 percent are Anglos. African-Americans and Latinos are the two groups most likely to be living in poverty. If we don't find a way to ensure that African-American and Latino kids are prepared to succeed and compete successfully in a global, knowledge-based, high-tech economy, it is hard to envision a prosperous future for Houston.

We are isolating African-Americans and Latinos in inner-city, inferior schools with far fewer resources than rich kids. And it starts at birth. One of the moments of truth in education is third grade reading. If you are not reading at a third grade level in third grade, you are four times more likely to drop out of high school. And the single most

powerful predictor of a third grade reading level is if you started kindergarten ready to learn to read. Rich kids start kindergarten one to two years ahead of poor kids, and that gap continues to grow. I think that is the great question mark for the future of Houston. Will we invest in universal preschool—cradle to career?

**Q | Do you plan to conduct the survey indefinitely? Is there a cutoff point?**

**A |** No cutoff point. I could imagine as I begin to retire, we could bring someone in and we could work together and then they'd pass it over to him or her. I can also imagine having the survey once every two years because changes occur, but they don't occur that rapidly. I think as long as there is a Kinder Institute, there will always be something like this because it is such a valuable snapshot

of where we are. The head of the Greater Houston Partnership told me once that these surveys have put the business community 10 years ahead of where they otherwise would have been because you can clearly see the realities that would take much longer to appear if you didn't have the data to just yell at you.

**Q | Based on your data, what sort of impact has the Texas Medical Center had on Houston?**

**A |** The Texas Medical Center is really the great asset that Houston has and it is really the great surprise. We knew about oil and gas, we knew about the port, but the medical center? It has been fascinating to see a city reinventing itself in a variety of ways, recognizing that our location near the East Texas oil fields that accounted for everything in Houston's prosperity in the 20th century will account for less and less and, eventually, for zilch in the 21st century. The Texas Medical Center is a critical piece of Houston's future. If Houston wants to become the third coast for life sciences, it has got to make the investments that will make that possible. Houston has been at the center for the treatment of diseases, but it has not been at the center for the development of new technologies. The hope is to really transform Houston from a place focusing on natural resources to a place where the source of wealth is knowledge.

**Q | You founded the Kinder Institute for Urban Research in 2010 with the support of Nancy and Rich Kinder. How did it come about?**

**A |** The Kinder Institute came out of the surveys. Houston was increasingly recognizing the value of having this record of time and change, and we thought it was important to have a home for it. We developed the institute and it combined my work with the work of my colleague, Michael Emerson, Ph.D.—now provost and professor of sociology and urban studies at Chicago's North Park University—who was running the Center on Race, Religion and Urban Life at Rice. We formed one center that, among other things, would provide a permanent home for the Houston Area Survey. We figured it would take 10 years or so to establish the endowment, and the Kinders, bless their hearts, came through and supported us.

**Q | 2017 was a pivotal year for Houston. We got through Hurricane Harvey and then the Astros won the World Series. What are the major issues the city must face in the coming decades?**

**A |** The last time we were in the World Series, we lost all four games to the White Sox. It was absolutely embarrassing. And now here we are. There are also dramatic differences between that game and now, in what there is to do in the city and its attractiveness.

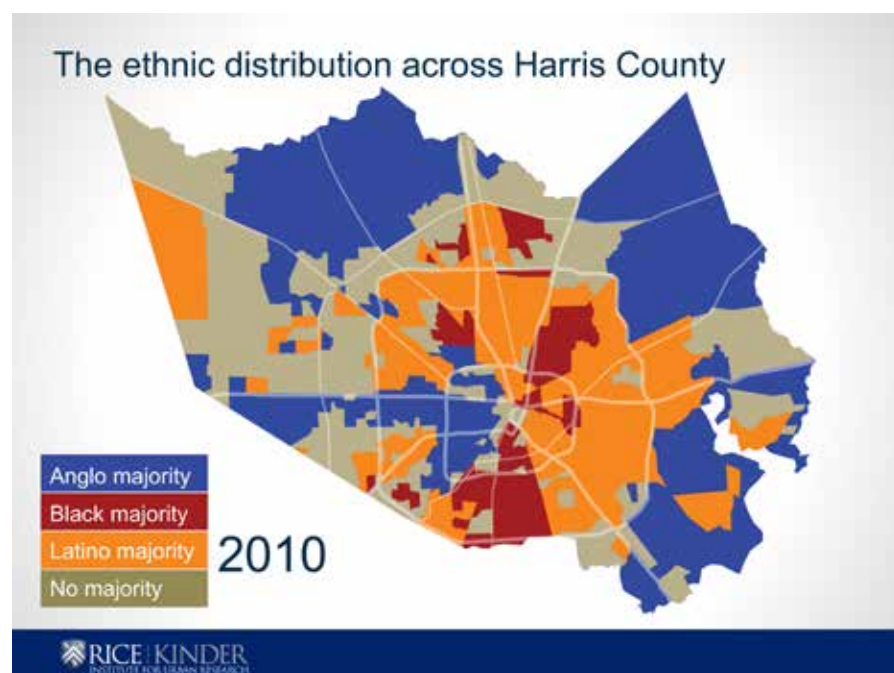
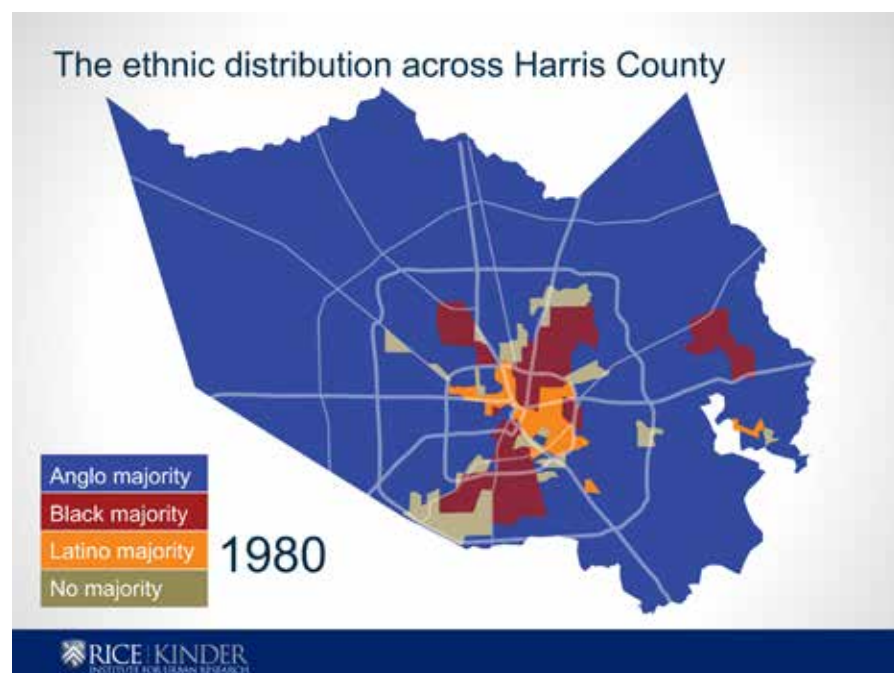
In Houston, we have got to live with water. We have to control that water and work with it. We have to stop building houses in areas that we know are prone to flooding, insist on retention ponds, and we need to build a third reservoir.

Houston has no prayer of being a major city in the 21st century if it is perceived by people outside of Houston to be not only flat and hot for much of the year, but also ugly and dangerously polluted. The beauty of dealing with flood control is that it means that we need more parks and more green space. The Bayou Greenways initiative, which aims to develop connected green corridors with hike and bike trails along the bayous of the greater Houston area, is also a flood control mechanism. So there is a lot of opportunity to create win-win situations, but only if there is a deliberate realization that we cannot leave it up to developers to decide how they want to build and maximize their profits.

**Q | What will Houston look like in 100 years?**

**A |** It will be much bigger. We expect another 3 million people will move into the Houston metropolitan area in the next 20 years—another 1 million into Harris County. It will be less diverse because it is going to be much more Hispanic. We may be as diverse as we are going to be right now. Although, what I do think is going to happen in 100 years is that it will be irrelevant—no one will think about ethnicity. There is not an ethnic divide in Houston that needs to be addressed. There is a class divide and that is going to be the great question. I think we can solve this question, but will we? ■

*Stephen Klineberg, Ph.D., was interviewed by Pulse reporter Britni Riley. This interview has been edited for clarity and length.*



Source: Outreach Strategists, LLC. Color represents demographic group being a majority in that census tract. @Dr. Stephen L. Klineberg and the Kinder Institute for Urban Research





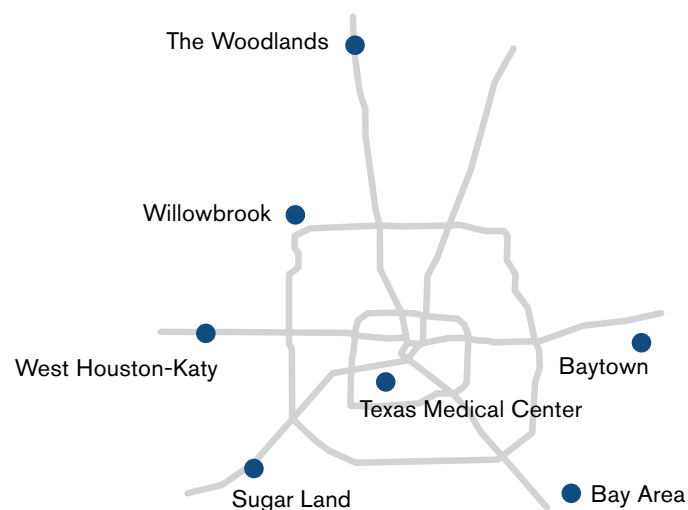
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# An Empty Place at the Table

*A Houston Hospice seminar helps individuals grieve the loss of loved ones during the holidays*

BY SHANLEY CHIEN

It's hard to ignore the festive decorations designed to spread holiday cheer. Advertisements remind us that the holidays are a time for families to celebrate traditions and make memories, but for those mourning the loss of a loved one, the holidays can be difficult.

For Sylvia Valverde, a retired Houston Independent School District administrator and Houston Hospice volunteer, the 2016 holiday season was punctuated by heart-wrenching sadness and sorrow.

Valverde's father, Eradio, passed away on June 6, 2016, three days after his 85th birthday. He had suffered multiple strokes since 1993 and was confined to a wheelchair after the death of his wife in 2003. In March 2016, after experiencing another stroke and a major seizure, he was admitted to Houston Hospice. He remained there until he died peacefully in his sleep.

In the years before her father's death, Valverde would prepare an annual Christmas feast. Part of the tradition in her household was to make her mother's



*Houston Hospice volunteer Sylvia Valverde held on to her father's Bible and glasses after he passed away at Houston Hospice in June 2016.*

fruit cocktail cake and macaroni salad.

"It was always my husband, my dad and me for the holidays," Valverde said. "My dad was a quiet person. He just wanted to eat. Once he was done eating, he was ready to go home."

But the Christmas following her father's death

wasn't filled with the happy tranquility that usually permeated their home. There was a void in Valverde's heart and she needed to grieve.

After all, Valverde and her husband had looked after her father every single day for 13 years, feeding him, clothing him, taking him to church and doctors' appointments. She had grown so attached to him as his caregiver that, after his death, she didn't feel like she was losing a father, but rather that she was losing a child.

"Last year was difficult. My husband's family invited us [for the holidays]. I went, but I didn't stay the whole time. I just couldn't. It just didn't feel right," Valverde said. "I just came home, laid on my bed and cried, missing [my dad] and wishing he was here."

Earlier that year, though, Valverde attended Houston Hospice's annual holiday seminar, "An Empty Place at the Table," dedicated to helping family members cope during the holiday season. The seminar



*Valverde, a retired Houston Independent School District administrator, holds a framed photograph of her father, Eradio, at Houston Hospice. Valverde attended Houston Hospice's annual seminar to help her cope with his loss during the holidays.*



helped prepare her for how she might be feeling and how to handle her grief.

The seminar provides an open forum for people to share their personal stories and concerns with others experiencing the loss of a loved one during the holidays. In addition, Houston Hospice offers a 13-month bereavement service—including phone counseling, pamphlets containing information about grief and loss, support groups and one-on-one counseling—to help family members cope and move forward.

Exchanging stories and woes not only allows people to find emotional support in others as they grieve, but also normalizes the grief, said Martha Nelson, director of bereavement services at Houston Hospice.

“As human beings, we are hard-wired to form attachments. When someone we are attached to dies, it hurts. That’s normal,” she explained. “We have these cultural expectations that the holidays are supposed to be perfect. But there is no such thing, especially when you’re grieving.”

This year in Houston, the pain of losing a loved one has been compounded by the destruction and devastation left in Hurricane Harvey’s wake, Nelson added. In addition to mourning a family member’s death, people are dealing with the wreckage of their flooded homes and lost mementos.

“Harvey is the gift that has kept on giving,” Nelson said. “It’s an additional level of grief and loss, and has the trauma associated with it, too, that I haven’t experienced before in my career.”



*Martha Nelson, director of bereavement services at Houston Hospice, stands in Houston Hospice's garden.*

Nelson said that grieving family members often wish the holiday season would “disappear like the magician’s coin trick and reappear only when [they] are ready for it.” But whether or not they choose to participate in the festivities, host a traditional family dinner or spend time alone, it’s important for them to make a plan for the holidays and to give themselves permission to grieve.

“With the holidays, we tell people to make a plan for the day. Don’t think you’re going to wake up on Christmas and all of a sudden know what you want to do,” Nelson said. “If your plan involves other people, you set up plan B. Yes, you’ll accept their invitation and come to dinner, but if it’s horrible and awful, it’s okay if you don’t show up.”

*(continued)*



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*Nelson in the Houston Hospice garden, where patients and families go to seek quiet and tranquility.*

There is no right or wrong way to cope with the emptiness left behind by a loved one's death, but Nelson encourages people to dedicate time in their holiday schedules to share memories and reflect.

### SEVEN TIPS FOR SURVIVING THE HOLIDAYS

<b>H</b>	<b>O</b>	<b>L</b>	<b>I</b>	<b>D</b>	<b>A</b>	<b>Y</b>
<b>HAVE</b>	<b>OPEN</b>	<b>LET</b>	<b>I</b>	<b>DO</b>	<b>ALLOW</b>	<b>YOU</b>
a plan	your heart to memories	others help you	I can change holiday activities	not ignore your feelings	yourself to grieve	will survive

Source: Houston Hospice

“We encourage folks to have some quiet time to remember, but also to make sure they have time with others to talk about the person who has died. Tell the stories,” Nelson said. “Yes, there may be tears at first, but that opens up the way to richness of their stories, the laughter and the remembering.”

For Valverde, there are still tears, but she plans to continue the tradition of putting up the 4-foot artificial tree she bought the Christmas before her mother's death. She'll decorate it with string lights and ornaments she and her siblings had given their parents from different places they had traveled. She'll hang up three glass bells that her mother gave her, alongside the ornaments she bought in honor of both her parents' deaths.

Although she still feels the loss of her father, she takes comfort in knowing her parents have finally

been reunited in eternal life.

“Death makes you appreciate the loved ones you still have with you. It makes you realize what's important and what's not important,” Valverde said. “What is important is that you have your loved ones with you and they know you love them.”

After all, Nelson added, we grieve to the depths that we have loved. While there will always be sorrow and suffering in mourning someone's passing, in the end, there's some measure of peace in confronting death that makes room for newfound growth.

“When you're willing to do the grief work, it makes you so much bigger,” Nelson said. “To give meaning to someone else's life, you can't help but grow yourself.” ■

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# TMC SNAPSHOTS

A PHOTO ESSAY BY CODY DUTY

#TMCsnapshots



**A** | A runner passes through Gus and Lyndall Wortham Park. **B** | Sunlight shines on a handrail in the John P. McGovern campus building. **C** | A grid of sunlight appears in the solar-powered parking lot at the Michael E. DeBakey VA Medical Center. **D** | Window washers make their way down the side of Texas Children's Hospital Pavilion for Women. **E** | Astros colors illuminate the water wall outside the John P. McGovern Texas Medical Center Commons building.



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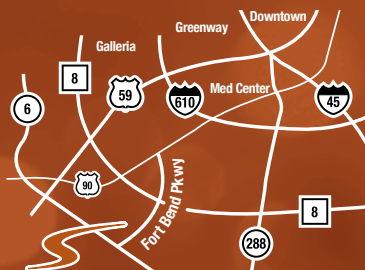


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# CURATED

The Intersection of ARTS and MEDICINE

By Britni N. Riley

Four years ago, a neuroscientist and a music composer walked into a coffee shop.

What was supposed to be a quick break for David Eagleman, Ph.D., and Anthony Brandt, Ph.D., turned into an intense discussion about medicine and art—their passions—and how creativity makes human beings different from every other species on Earth.

And that's where the idea for their new book, *The Runaway Species: How Human Creativity Remakes the World*, was born.

"We started talking about the creative process and the more we talked about it, the more we realized we had a lot in common in the way we looked at it, almost a 99% overlap," said Brandt, a professor at Rice University's Shepherd School of Music. "We realized we had to write a book about it. We decided from the outset that we would write every word together. ... That way, it would be in a single voice and it wouldn't be a hodgepodge."

The pair hammered out the book in Eagleman's dining room on weekends, and kept writing even after Eagleman left Baylor College of Medicine to work at Stanford University in California.

As Eagleman explained to a packed house at Christ Church Cathedral on Nov. 16—a Brazos Bookstore event to promote the book—human brains are unique in that they have an expanded cortex.

"The expansion of our cortex led to two things," said Eagleman, whose previous books and a PBS series on the brain have earned him devoted followers, even groupies. "The first is that we got more room between input and output, so we don't have to act reflexively. Instead, when inputs come in, we can chew on them and then act on them, or, maybe not. The second thing that

happened was that in the expansion of the cortex, we have a much bigger pre-frontal cortex and that is the thing that allows us to generate what-ifs. That is the thing that has unleashed this capacity for humans to lean into the future, generating hypotheses and evaluating them."

*The Runaway Species* argues that all humans, from middle school janitors to world-renowned painters, have creativity in their brains, living somewhere between the thirst for novelty and the longing for familiarity.

"Creativity is democratically distributed by nature," Brandt said. "Mother nature gives that to every population and every demographic. People differ in their creative abilities and they differ in their interests, but it is the software that is running

in everybody's brain."

Many of us assume we are not creative, or perhaps we've been told we are not creative, Brandt said, but by digging deeper than personality, we will all find our own version of creativity.

Eagleman and Brandt worked their way back through centuries of innovation and discovery to determine how ideas come about. Their framework for the creative process contains three strategies: Bending, which is taking an idea and transforming it by twisting it out of shape; breaking, which entails taking a whole idea and breaking it into different pieces; and finally, blending, or merging two or more ideas to make something new.

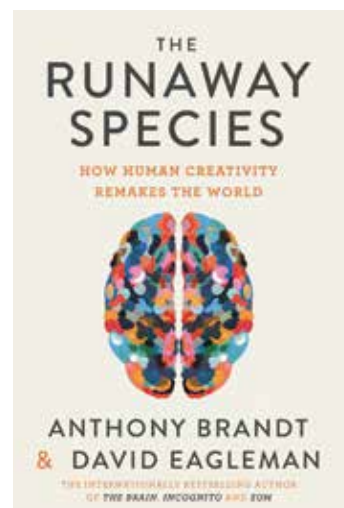
"Bending, breaking and blending are the main brain operations that underlie innovative thinking," Eagleman said. "We apply this basic

cognitive software to everything around us and in doing so, we generate a tidal wave of novel worlds in front of us."

*The Runaway Species* is filled with examples of bending, breaking and blending that have transformed the world.

"You can bend our biology, too," Eagleman said. "Hearts fail, and scientists began to wonder if they should make an artificial one. In 1982, they made a mechanical pump. It was big and heavy and it would wear down in time. In 2004, doctors in the Texas Medical Center came up

with the continuous-flow heart. It doesn't pump anymore ... but instead cycles blood through constantly so it gets oxygenated. There is still a heart inside of your chest, but it doesn't use the same principles as mother nature gave you—it is a bend of what is found in nature." ■



Neuroscientist David Eagleman, Ph.D., who is affiliated with Stanford University, and Anthony Brandt, Ph.D., a composer and Rice University professor, after an event at Christ Church Cathedral to promote their new book.

# PUERTO RICO'S CLEANUP HITTERS



BY ALEXANDRA BECKER



Ricardo Flores, M.D., and Mario Polo, M.D.,  
joined forces with two Houston Astros  
to lead local relief efforts  
for post-hurricane Puerto Rico.





**O**n Wednesday, Sept. 20, Hurricane Maria struck Puerto Rico. With sustained winds of 155 mph, the Category 4 storm uprooted trees, razed homes and caused widespread, catastrophic flooding, leaving millions without electricity, water or cell phone service.

Ricardo Flores, M.D., clinical director of the Cancer and Hematology Centers at Texas Children's Hospital The Woodlands, was at work when the storm hit his homeland. Flores had a busy clinical schedule that day and was trying not to worry incessantly about his family and friends back home. That proved impossible.

Just across the interstate at Houston Methodist The Woodlands Hospital, neurointerventional radiologist Mario Polo, M.D., Flores' medical-school-buddy-turned-lifelong-friend who had just relocated from Puerto Rico in March, was also deep in his workday. Polo tried to stay informed about the hurricane through news apps and social media, and he and Flores updated each other throughout the day via text. Once the island's power grid crashed, both doctors were inundated with frantic calls from their loved ones who were waiting out the storm and could no longer watch the news.

"They were calling us and asking for an update because it looked so bad outside," Flores said. "The way that they kept describing it was like a tornado that doesn't go away. The sound was awful and everything was breaking."

A few hours later, communication went dark. Flores couldn't reach his mother for 10 days and Polo was worried sick about his 94-year-old grandmother, who was recovering from a hip fracture. Her nursing home had closed in anticipation of the storm, and his only solace was knowing that his uncle, a gastroenterologist, had taken her in.

"That was heart-wrenching," Polo said. "Just knowing that they were without electricity, without water, without communication—and with a 94-year-old who needed 24-hour medical care."

### Texting Carlos Correa and Carlos Beltrán

As the media continued to deliver news of the devastation, Flores and Polo felt restless; they wanted to help. The doctors reached out to other Puerto Rican professionals living in Houston and together created the group Texas United for Puerto Rico. The group immediately started collecting relief supplies.

"The response we had from the community was incredible," Flores said. "I texted Carlos Beltrán from the Astros. And Carlos Correa. [Beltrán] texted me back saying, 'Yeah, we need to do something. I just donated a million dollars for support. I'll let you know more.'"

Beltrán—who has since retired from Major League Baseball—and Correa were in the midst of the most exciting season in Astros history when Hurricane Maria hit. Both had family back in Puerto Rico and, like Polo and Flores, could not afford to lose focus on their work as they awaited word from loved ones.

But they wanted to help in any way they could. So when the supply drive exceeded expectations—Texas United for Puerto Rico amassed nearly 2,500 pounds of donations in just two days—Flores texted Beltrán and Correa again and asked: Can you get us a plane?

"We were naïve; we didn't know the hurdles we were going to be facing," Flores said. "But we realized right away that the main roadblock would be getting the supplies to Puerto Rico. People were amazing—the support we got. But getting it from here to there is a logistical nightmare."

Beltrán and Correa contacted Astros owner Jim Crane, who agreed to donate the Astros plane for two missions. By Monday, Sept. 25, less than a week after Hurricane Maria hit, the group had sent thousands of pounds of goods to San Juan.

Since then, Texas United for Puerto Rico has sent another 12 planes loaded with medications, generators, solar-powered lights, water filters, food and other items. Flores and Polo are in a unique position because of their personal ties back home, which has proven beneficial in identifying what, exactly, the island needs the most.

Physicians from all over Texas have collected medical supplies in different specialties based on the specific needs

voiced by the hospitals in Puerto Rico. UTMB-Galveston donated more than \$10,000 in neurosurgical equipment. Carlos Correa's family dug into their own savings to make numerous shopping trips to H-E-B for bulk food items. In addition to the Astros' plane, flights were arranged by private donors, including Waste Management Inc. and Ross Perot Jr.'s Hillwood Airways.

A supply run on Oct. 5 was made possible by United Airlines, taking Flores, Polo and members of Houston City Council on a Boeing 777-300 so they could personally deliver 55,000 pounds of food, humanitarian relief and generators. More than 200 seats on the plane remained empty to accommodate the extra cargo weight. When the plane arrived on the island, Flores and Polo personally distributed the pallets to delivery trucks to ensure they reached their intended destinations.

"I still don't know how we did it—60 pallets with one forklift in 360 minutes. It was literally one pallet every six minutes," Flores recalled. "We were able to do it, but it was crazy."

(continued)



*Houston Astros teammates and fellow Puerto Ricans Carlos Beltrán and Carlos Correa at Minute Maid Park on Oct. 13, 2017. The two have been involved in relief efforts for Puerto Rico after Hurricane Maria.*

*Credit: photo by Ronald Martinez/Getty Images*

“The only thing we wanted was for our help to impact communities and make a difference,” Polo added. “Puerto Rico has 78 municipalities or towns, and so far, we’ve sent help to 22.” (Since this interview, that number has grown to 25.)

The group is proud of the progress they’ve made, but they hope aid is increased in general—be it through other relief organizations or government programs—so that theirs becomes a drop in the bucket.

“It is uplifting and, to some extent, we feel good about it,” Flores said. “But at the same time, the downside is that we wouldn’t like to be the group that is actually delivering the most medications long-term.”

On the United flight to Puerto Rico, a Houston City Council member described their conundrum perfectly: “We are the people we have been waiting for.”

### Anticipating a public health crisis

Currently, Texas United for Puerto Rico has two separate warehouses in Houston filled with approximately half a million pounds of supplies. The group has set up a GoFundMe account for individuals hoping to help; the biggest need at this point is financial donations for planes, fuel and big-ticket items like generators—critical for an island that will be unable to fully restore power for months.

“They call us every single day and tell us of communities that are disconnected from the rest of the island,” Polo said. “It’s not that they are not receiving help from FEMA, it’s that the catastrophe is so huge, that what they are receiving is not enough. And they are begging for help.”

The island went back 100 years in the blink of an eye, Flores added.

“You have the contamination of water and different food supplies. So we’re going to see the epidemics that we’re starting to see now—gastroenteritis, leptospirosis, conjunctivitis,” he said. “In developing countries, people don’t die from cancer or chronic diseases. They die from dehydration, from diarrhea. So this is what we will expect in Puerto Rico, and we’re already seeing it. People are dying from lack of essential antibiotics and things like that.”

In addition to the anticipated public health crisis, access to even basic health care has already become scarce. Numerous hospitals have been forced to close due to the power shortage and lack of fuel for generators. Diminished access to treatment—including dialysis, insulin, cancer therapies, medication and oxygen—has left thousands of lives in peril, especially the sick and the elderly.

Polo estimated that there are “tens of thousands” in situations similar to his grandmother: they survived the storm yet are now unable to get the medical care they need. He and Flores are doing what they can. Already, Texas United for Puerto Rico has brought back close to 25 patients on

their humanitarian flights to Houston, and local hospitals have donated beds and are providing care.

Polo’s grandmother was on one of the flights. Dehydrated and weak, she was admitted to Memorial Hermann’s ICU for a week with a severe case of pneumonia and is currently living in a nursing home in The Woodlands.

“I know if she hadn’t gotten on that flight, she wouldn’t be here right now,” Polo said, adding that he will be forever grateful to the individuals who have donated their planes, their pilots and their time.

That generosity is what has struck the two friends the most these past months. The City of Houston, still reeling from Hurricane Harvey, offered access to their hub of relief supplies for those in need in Puerto Rico. And on the United flight, a fourth-grade teacher clutched letters from his students with messages of solidarity written in elementary Spanish: “We recovered, I know that you’re going to recover,” they said. “What we went through doesn’t even compare to what you’re going through.”

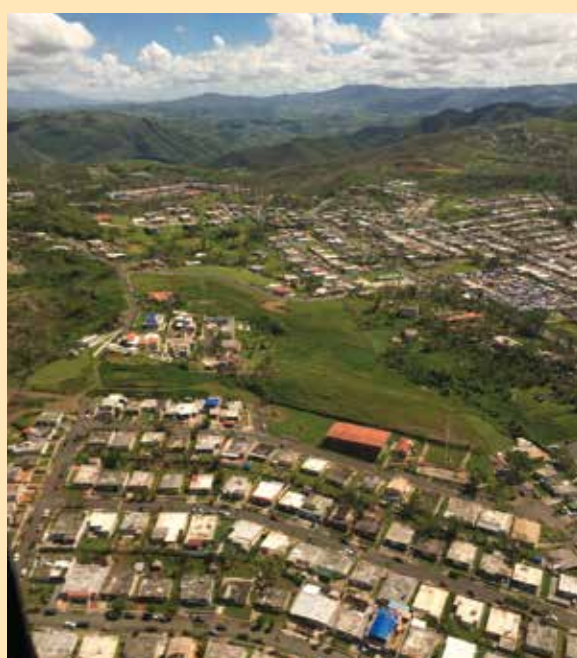
### World Series champs

On Wednesday, Nov 1, the Houston Astros beat the Los Angeles Dodgers in Game 7 to win the World Series. With the cameras still rolling, Carlos Correa proposed to his girlfriend in front of 28 million viewers at home.

Hours before the start of the game, Houston meteorologist Eric Berger, whose Space City Weather website became one of the most reliable sources for weather updates during Hurricane Harvey, accurately forecasted that his beloved team would win 5-1: “Because, Harvey.” He later tweeted, “We knew. After Harvey dropped 51 inches, it had to end like this. After the darkest night, the sun always comes out.”

The day after the World Series, Flores and Polo landed in Puerto Rico. They spent Thursday at The University Pediatric Hospital in San Juan delivering donations for distribution. On Friday, they took a

private helicopter to Salinas, on the southern coast, where they met with the town’s mayor and Correa’s maternal grandmother, Carmen Arroyo, who lives nearby in Santa Isabel. The group was interviewed by radio sports commentator Raul Cintrón, a local legend who lays claim to the



**TOP:** A bird’s-eye view of the devastation on the way to Salinas.

**MIDDLE:** Relief supplies are unloaded in Salinas.

**BOTTOM:** Polo, Flores and a local pediatric surgeon carry donations to The University Pediatric Hospital in San Juan.

*Puerto Rico photos by José Rodríguez*



first interview with Correa when he was just six years old. Cintrón told Flores that he recalled young Correa saying he wanted to grow up to be like Derek Jeter “because he’s the best, and he’s very humble.”

Listened to by locals religiously at noon each Monday through Saturday, “Hoy en los Deportes con Raul Cintrón” (“Today’s News in Sports with Raul Cintrón”) is so popular, that by the time the interview concluded and the doctors and Arroyo started their tour of the town, nearly everyone they ran into had just heard them on the radio.

The World Series was all anyone was talking about.

“They have the curfew and they still went out and tried to find the few houses that had electricity and TV so they could watch it and make sure they won,” Flores said. “It was a great night for Puerto Rico for sure.”

While in Salinas, the doctors distributed enough food for 200 people, along with diapers, wipes and other supplies in high demand. They also visited the home of a 37-year-old patient who had suffered from hydrocephalus and complications from meningitis when he was a little boy. Defying a life expectancy of 1 to 2 years, the conditions left him mentally delayed, but he has found joy in life—and, specifically, baseball. He listens to Cintrón’s show every day.

“He’s a huge fan,” Flores said. “He knows all the baseball stats, he’s so good with numbers.”

The patient lives in a small house with no power, no water, and no bathroom. He has an aunt in Michigan who hopes to bring him, along with his mother and his father, to live with her in the contiguous U.S. After gifting the patient a Houston Astros cap and T-shirt, Flores evaluated him and determined that he was stable enough to fly on a commercial flight. He promised the mayor that his next big project was to coordinate transportation for him.

The doctors flew back to Houston on Saturday, bringing with them another patient, an 8-year-old girl with leukemia. Before the hurricane, she would have easily had access to the treatment she needed in Puerto Rico. But on an island that’s struggling to get basic supplies and services, her life could not wait. She is currently being treated at Texas Children’s Hospital in the Texas Medical Center.

## Grain by grain

Puerto Rico’s needs are vast, and they are shifting daily. Correa’s parents, Sandybel and Carlos, Sr., speaking in Spanish as Flores translated, said that as the island is recovering, donations for medications and building materials are still critical. For now, they are focusing their efforts on collecting galvanized metal, wood panels and two-by-fours because it has

been raining steadily and many homes are still without roofs.

“We understand that we can’t fix everything at once, but just contributing our own grain of sand, grain by grain, we think we’ll be able to make a difference,” Sandybel said.

Indeed, any gesture, no matter how small, helps the island’s uphill recovery.

Flores and Polo plan on returning to Puerto Rico as often as possible in the coming months and hope to provide hands-on support at medical clinics and with specific rebuilding projects. They will continue their efforts indefinitely, understanding that the scope of the disaster is still unknown.

“Every time we go there in person, it’s really devastating,” Flores said.

He recounted a story about neighbors in Salinas who were burning debris from the storm. A paint can, hidden in the pile, exploded, and burned a small child’s arms and face. Flores worries that if the child’s wounds get infected, he will die for lack of antibiotics and medical care.

“These things are happening and no one hears about them,” Flores said.

There are happy stories, too. In mid-November, Flores got word from JetBlue that the 37-year-old patient in Salinas would be flying to Michigan with his family later that month. Flores contacted Cintrón with an idea, and shortly thereafter, the

devoted listener heard the news via his favorite radio show.

“His mom said that he started screaming like crazy,” Flores said. ■

If you would like to help the doctors’ mission, please visit [gofundme.com/UnidosPorPuertoRico](http://gofundme.com/UnidosPorPuertoRico)



**TOP:** Radio sports commentator Raul Cintrón before his interview with Drs. Flores and Polo. **BOTTOM:** A framed photo of Carlos Correa hangs on the wall at the radio station.

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## HOW TMC EMPLOYEES SPEND THEIR SPARE TIME

When Fiorela Natali Hernandez Tejada met Beatriz Rozo in 2014 during Tejada's first year working in the MD Anderson Children's Cancer Hospital clinic, the two instantly bonded over their Peruvian heritage. They connected over their shared love for Peruvian cuisine and culture, but most of all, Peruvian dance.

"She asked me if I liked to dance, and I told her that I love to dance!" Peruvian-born Tejada said with unbridled enthusiasm. "The music calls me. If you put some music on, I will dance."

Rozo invited Tejada to join Raices Del Peru (Roots of Peru), the Peruvian dance group co-founded by Rozo's mother in 2002. After Rozo's parents immigrated to the United States from Peru in 1975, her mom was committed to bringing Peruvian culture to their new home and staying connected to her roots.

"[My mom] thought, 'If I have to be here, then I'm bringing Peru to Houston!'" said Rozo, who has been dancing since she was 5 years old. "That was the way she was going to make it work."

Every October, Raices Del Peru hosts its own Peruvian festival, but due to Hurricane Harvey, the event has been rescheduled for February 2018.

The group's mission is to share Peruvian culture with the Houston community by performing folk dances at festivals, fairs and church events, including the Houston International Festival and the State Fair in Dallas. The dances represent the different regions of Peru, which are divided into three groups: the coast, the jungle and the mountains. The movements, costumes, accessories and hairstyles vary from region to region.

"Our culture is so rich and so diverse," Tejada said. "For example, from the coast to down south, you have Afro-Peruvian Creole music, which is very rhythmic. It's similar to African dances because it's inspired



NAMES: **Fiorela Natali Hernandez Tejada and Beatriz Rozo**

OCCUPATIONS: **Pediatric fellow and pediatric nurse practitioner at The University of Texas MD Anderson Cancer Center**

INTEREST: **Peruvian dance**

by the people who came from Africa to the south part of Peru."

But the dance Rozo and Tejada both love is the Marinera Norteña. Similar to the Spanish Fandango, Marinera Norteña is a fast-paced, high-energy dance that tells the story of a flirtatious courtship between a man and a woman.

The dance emerged during Peru's colonial period (1532–1821), when the Viceroyalty of Peru—which included what is now Chile, Bolivia, Colombia, Ecuador and Argentina—introduced the Zamacueca, a dance that incorporates African, Spanish and Andean styles and rhythms. As South America fought to liberate itself from Spain, the Zamacueca became a dance to celebrate independence and developed different iterations in different regions: Zamacueca became Cueca in

Chile, Cueca Boliviana in Bolivia and Zamba in Argentina.

In Peru, the Zamacueca adopted the name La Marinera ("the sailor") in 1879 to honor the Peruvian Navy during the War of the Pacific. The three main variations of La Marinera consist of Marinera Limeña, Marinera Serrana and—the most popular—Marinera Norteña. Although the dance originates from the northern coastal area of Peru, Marinera Norteña is widely considered the national dance of Peru.

In this style of dance, the man is sharply dressed in a suit or poncho and polished black shoes. He also wears a wide-brimmed straw hat, which he uses as a prop. In contrast, the woman dances barefoot and wears brightly embroidered clothing with a loose, flowing skirt. Both dancers carry a white

handkerchief to wave and twirl flirtatiously to capture the other's attention.

"I personally love it because I was born from that region. As soon as I could walk, my mom told me, 'Okay, now you have to dance Marinera,'" Tejada said. "I've been dancing it since. It's in my blood."

While Peruvian dancing helps relieve stress and offers a fun way to burn calories, Rozo and Tejada see it as a timeless form of art and self-expression that bonds them to Peru's history, culture and people.

"It just keeps a little bit of Peru always in you," Rozo said. "It's hard in the United States to keep that culture, but my mom has tried in every way to keep us connected and to remember where we came from." ■

ON THE SIDE

BY SHANLEY CHIEN

# the GIFT of a healthy HEART

## A YOUNG GIRL GETS A CHANCE TO GROW OLD

BY MAGGIE GALEHOUSE

The hot pink poster, embellished with stickers, said “Welcome Ilhan.”

Rachael Wright, executive director of HeartGift-Houston, brought the homemade sign to George Bush Intercontinental Airport on Aug. 22 to greet a young Somali girl traveling to Houston for heart surgery.

But Ilhan Salah Abdullahi, 7, and her mother, Maryan Abdi Biriye, 39, did not arrive on their scheduled 6:51 p.m. flight. Anxious, Wright pulled out her phone and started a long conversation with British Airways, retracing the Nairobi-London-Dallas-Houston itinerary.

Four hours later, Ilhan and Maryan finally emerged from the gate. They had missed their connection in Dallas and had to wait for the next flight to Houston. And soon after take-off, Ilhan had a “tet” spell—not uncommon for children suffering from tetralogy of Fallot, a rare condition caused by four interrelated heart defects. A rapid drop in the amount of oxygen in Ilhan’s blood caused her tiny body to go limp and her skin to turn blue.

“She had no pulse for about 30 seconds,” said Quineshea Roberson, a member of the American Airlines crew on that flight. “She looked dead. She was in the back row of the plane and she wasn’t moving at all.”

Incredibly, a Somali cardiologist was on the flight and happened to be sitting near Ilhan. She checked Ilhan’s traveling papers, got her some oxygen, pumped her with fluids and spoke soothingly to Maryan and Ilhan in their native language.

“This mother and daughter—they have touched my heart,” said Nasteho Adam, M.D., who pushed Ilhan out of the gate in a wheelchair, with Maryan and two medics in tow.

Despite the 24-hour journey and the tet spell, Ilhan greeted Wright with wide eyes and a shy smile. Ayisha Warfa, a Somali-born teacher who would be hosting Ilhan and Maryan at her home in Spring, joined Wright, in the airport waiting area to greet her new houseguests.

Within minutes, Wright had whisked the weary travelers away to collect their bags and get them settled into Warfa’s home. It was nearly midnight, and they had a doctor’s appointment at the Texas Medical Center the next morning.



*Nasteho Adam, M.D., pushes Ilhan Salah Abdullahi through the concourse at George Bush Intercontinental Airport. Ilhan’s mother, Maryan Abdi Biriye, follows behind with two medics.*

### Duck, duck, goose

Ilhan lives with her parents and nine siblings in a two-room mud hut in Garissa County, northeastern Kenya, near the Somalia border. Despite the Kenyan address, the family is Somali. Salah Abdullahi Ali, Ilhan’s father, works nights as a security guard, and Maryan works 20 hours a week as a janitor at a local school.

The family is poor. They have no electricity, no running water. Their bathroom is a hole in the ground behind their dwelling. There are no paved roads, trees or vegetation in their neighborhood, although some residents grow vegetables along a nearby river. A bus that comes from Nairobi, some 300 miles to the west, brings in food. Many Kenyan-Somalis in Garissa County must travel long distances to get medical care.

Ilhan was diagnosed with a heart condition at age one and has seen doctors intermittently, but it wasn’t until HeartGift selected her as a patient that surgery became a reality.

Established in Austin in 2000, HeartGift provides lifesaving surgery to children around the globe where specialized medical treatment is scarce or nonexistent. The organization, which has chapters in Austin, Houston, Dallas, San Antonio and Louisiana, has forged partnerships around the world to help get patient referrals. HeartGift staff and volunteers coordinate travel to the U.S., housing, meals, translators, entertainment—everything a child and parent will need for their stay.

Building a solid social network around the parent and child is critical to a successful surgery and visit. For Ilhan and Maryan’s four-week stay, Wright reached out to Houston’s Somali population.



"It really takes a huge community," Wright explained. "It's kind of like duck, duck, goose. You tag a person who tags a person. ... There's a lot of text messaging and questions like: *Can somebody bring a meal to the hospital? Is somebody available to visit them?*"

Participating physicians and medical practices contribute 100 percent of their fees and services to HeartGift. In Houston, HeartGift works with doctors affiliated with Memorial Hermann Health System and The University of Texas Health Science Center (UTHealth).

This year, Ilhan was HeartGift-Houston's fifth patient.

### Floppy and listless

The morning after Ilhan and Maryan arrived in the U.S., Wright brought them to the office of John P. Breinholt III, M.D., chief of pediatric cardiology at Children's Memorial Hermann Hospital.

Ilhan had to be measured and weighed before seeing the doctor: She was 43 inches tall and 33 pounds. Maryan sighed audibly when she heard just how little her daughter weighed. A test to show the amount of oxygen in Ilhan's blood revealed she had half the amount she should.

While they waited in Breinholt's office, Maryan sat with her daughter at a child-size table, pulling up a low chair so Ilhan, listless and floppy, could lean against her. Before long, Ilhan folded herself into her mother's lap so swiftly and effortlessly that it was obviously a familiar, go-to position. Maryan cradled her as if she were an infant.

Translator Abdirisak Abdulle stood by to help them communicate. When a technician came to give Ilhan an EKG, the young girl cried out in fear when she saw all the cords. It was the first sound she had made since arriving at the doctor's office. Maryan leaned over the examining table to comfort her daughter as the translator explained that it wouldn't hurt, that there would not be any blood.

When Breinholt arrived, he took Ilhan's medical history and asked about the tet spell on the plane.

"Hello, beautiful," he said to Ilhan, carrying her over to the examination table where he felt and listened to her heart.

*Rachael Wright, left, executive director of HeartGift-Houston, holds a welcome sign for Ilhan and greets Ilhan's mother, far right.*

"I'm feeling for a right ventricular heave coming up and pushing the chest wall," said Breinholt, an associate professor and director of the division of pediatric cardiology at McGovern Medical School at UTHealth. "When you examine the heart, there's a palpation element; there are murmurs you can feel. I can hear a gallop—an extra heart sound. Tetralogy means it's a constellation of four findings. They're actually all interrelated. It's not like I would even call them four defects. One kind of causes the other."

Tetralogy of Fallot denotes a problem between the two pumping chambers of the heart, also known as a ventricular septal defect. Additionally, the aortic valve is

enlarged and appears to rise from both ventricles; the pulmonary valve is narrow and inhibits blood flow from the right ventricle to the pulmonary artery; and the walls of the right ventricle are thicker than they should be because the right ventricle is pumping at such high pressure—working overtime, all the time.

In patients with this condition, blood flow to the lungs is usually restricted and oxygen-poor blood is shunted from the right ventricle to the rest of the body. This oxygen-poor blood is darker than oxygen-rich blood, which is why the lips and skin of patients with tetralogy of Fallot appear blue.

*(continued)*





*Above: John Brienholt III, M.D., carries Ilhan to the examination table. Left: Brienholt examines Ilhan's fingers.*



"Ilhan's oxygen saturation levels would never be allowed here in the U.S. without surgery or intervention or something like that," Breinholt said, after the exam. "If you look at her fingers"—he walked across the room to where Ilhan was curled, once again, in her mother's lap, and lifted one of her fingers—"her nail beds look kind of swollen, a little bulbous. That's called clubbing. That's the product of prolonged cyanosis—or prolonged blueness. Some of that will recede after she's repaired. Her color will be vastly different after surgery. Even though she is very dark-complexioned, I can tell she's cyanotic. Africans can be missed for this diagnosis."

In the coming days, though, the oxygen levels in Ilhan's blood would only get worse.

On top of that, a hurricane was heading toward Texas.

### The best solution

On Friday, Aug. 25, Hurricane Harvey slammed into the Texas Gulf Coast. When the wind and water reached Houston, the Texas Medical Center found itself in the midst of an epic flood. Although hospitals remained open, access to the medical center was difficult. Many surgeries and routine treatments had to be rescheduled.

Jorge Salazar, M.D., started his new job at the Texas Medical Center on Sept. 1.

"It was such a whirlwind," said Salazar, the new co-director of the Children's Heart Center at Children's Memorial Hermann Hospital, and professor and chief of the division of pediatric cardiovascular surgery at UTHealth's McGovern Medical School. "I came from Boston to Houston to lead this program at Memorial Hermann. We were in Houston, living in a hotel, when the hurricane hit."

Ilhan, who had been admitted to the hospital a few days earlier, was one of Salazar's first patients.

"She had been waiting for surgery

because of the hurricane," Salazar said. "Her surgery had been planned for earlier. When I met her, her oxygen levels were under 50 percent, dropping to 40 percent. ... Oxygen levels that are half of normal, of course, affect the brain and the rest of the body."

So many babies and children needed care that Salazar and a team of doctors worked around the clock, sometimes performing two or three major operations a day. One surgery can last as long as six hours.

"We weren't doing elective operations at that point, and Ilhan was one of the kids that needed urgent care," he said. "We decided to operate on the weekend."

On Sunday, Sept. 3, Salazar and his team were able to fully repair Ilhan's heart and to keep her pulmonary valve.

"Sometimes the best solution is the simple one," Salazar explained. "When you do the repair, the crux of the issue is whether or not you can spare the pulmonary valve. The more we can respect the normal anatomy and function of her own heart, the better and the more durable the repair. Everything we do is about maximizing the benefits long term and minimizing the risk."

### A dozen hard-boiled eggs

Four days after surgery, Ilhan sat up in bed in the hospital, eyes glued to "Family Guy" on television. Her once-blue lips were now pinkish-brown, and her skin had a healthier hue. She smiled when a stream of visitors arrived, but remained quiet.

Maryam, in a bright pink hijab, sat off to the side of her daughter. Speaking through an interpreter on a video remote interpreting



*Jorge Salazar, M.D., started working at the Texas Medical Center on Sept. 1.*



machine, she answered questions about the surgery.

*Were you afraid?*

"Of course I was afraid, but I prayed to God that everything was going to be okay."

*Are you anxious to return to Africa?*

"Yes, because all my other children are back home in Africa.

*Can you describe your life there?*

"The situation at home is horrible. It is very hot. But I don't have any other choice but to go back."

*Can you describe your home?*

"My house is made out of mud. Two rooms. About as big as this hospital room."

*Have you seen a change in Ilhan since the surgery?*

"She's able to breathe better. She is doing much better overall. Before the surgery, she was able to walk, but she would get tired after one or two steps. Since the surgery she has been able to walk without getting tired and walk a lot longer distance than before."

All told, Ilhan spent more than a week in the hospital. Since she and her mother were stringent about what they would and would not eat, meals became a challenge. Becky Sam, RN, pediatric cardiovascular nurse coordinator at the hospital, ended up making food for Ilhan and storing it in a mini fridge at the hospital. Whether it was pasta with meat sauce or a dozen hard-boiled eggs, the meals and snacks lived in a large container labeled "Ilhan's Food."

By the time Ilhan left the hospital, the oxygen level in her blood was 100 percent.

Salazar said she was a patient he will never forget.

"I have seven children," the surgeon said. "I take that same instinct of what I want for my own children and give that to the children I care for. It is impossible to imagine the stress and displacement Ilhan and her mother must have felt coming to such a different culture. I remember that her mother was so grateful. She was at her daughter's bedside 24/7."

### Bittersweet

Breinholt kept a close eye on Ilhan after surgery.

Soon after discharge, she developed a fever and was readmitted to the hospital.

*Ilhan smiles from her bed at Children's Memorial Hermann Hospital a few days after surgery.*

It turned out that the fever was related to an ear infection, nothing more. Ilhan was sent back to Warfa's home with a new antibiotic.

Breinholt, who has four children of his own, has cared for several HeartGift-Houston patients and taken more than 20 trips with different organizations to help children and families in underserved communities.

"We're people they've never seen before and they can't communicate with us like they'd like to," Breinholt said. "These families are concerned, but they don't ask a lot of questions. Many come from an environment where the prospect of losing a child is not as overwhelming as it might be for us. They tend to be understanding of those risks."

Caring for children like Ilhan, who will return home and likely never see Breinholt or Salazar again, is bittersweet for both doctors.

"You have to set a different type of expectation," Breinholt said. "How we look at it is: This is her only shot. They try to select cases where one surgery is going to be all the patient needs. This one was life-saving.

Because we've done this, Ilhan has a very high likelihood to get married, to have children, a family. She'll have a long and fruitful life."

The prognosis for children like Ilhan has gotten markedly better over the past few decades, Salazar said.

"One percent of all babies born have a heart defect," he said. "It's really, really common. And it wasn't that long ago that we didn't have great solutions. Unfortunately, the vast majority would die before receiving care, especially outside the U.S. But over the last 15 years we have witnessed a transformation in the cases we can care for. More than 98 percent of the children who come to experienced centers like ours have excellent outcomes."

For Ilhan, this was the opportunity of a lifetime, a surgical fix that will hopefully stick for decades to come. There will be no six-month or one-year checkups, though. That's not her reality.

*(continued)*





*Left: Somali women and other guests enjoy dinner at the Islamic Community Center. Below: Ayisha Warfa displays her gift from HeartGift-Houston for hosting Ilhan and her mother.*



### A pink crown

A modest, low-slung building behind Hillcroft Avenue began to fill with Somali women, carrying salads, spongy Ethiopian flatbread, fragrant trays of vegetables and meat, and thermoses of milky-sweet shaah hawash—a spiced tea loaded with cardamom, cloves and ginger.

Here at the Islamic Community Center, there were two reasons to celebrate: one woman was expecting a child, and Ilhan and Maryan were just days away from returning to Africa.

A spacious shoe rack in the narrow entryway remained empty, while the floor below flooded with shoes hastily kicked off. Warfa, who had hosted Ilhan and Maryan for a month and introduced them to this circle of Muslim friends, marveled at the bond between this mother and daughter.

“You can tell the attachment level,” said Warfa, who came to the states 26 years ago to attend college in Manhattan and ended up starting a family in Texas. “I don’t know how anybody does it with 10 kids because everybody needs your attention. Maryan’s youngest is 6 months old. She left the baby with her sister, and when she gets back home she’s going to leave Ilhan with the same sister because she doesn’t want the younger or older kids, while they’re wrestling or playing, to hit her too hard.”

Ilhan, at age 7, is the same age as the first-graders Warfa teaches.

“I’ve been taking Ilhan to Kohl’s,” Warfa said. “I bought her little girly dresses and

stuff like that. She’s really enjoying those. Tomorrow we’re going to Target. Ilhan really likes the shopping. Maryan could care less.”

Women in jewel-toned hijabs and robes continued to arrive at the center, which hosts religious classes for children to learn the Koran. Many walked straight to a back room to pray, as the sun had already set.

Over the next few hours, the women visited in chairs lined up against the walls. Ilhan stayed close to Maryan, who stayed close to Warfa and Wright.

“I’d like to take a moment to thank Ayisha for hosting Ilhan and Maryan, for caring for them and translating over the phone at random times, and literally seeing them through a storm,” Wright said to the group, as she handed Warfa a small, wrapped present.



*Ilhan finishes a piece of cake.*

It was a photo of Ilhan from the hospital, wearing a pink crown that she had made herself.

As the women ate and talked—even breaking into song, at one point, pounding on chairs to keep the beat—Warfa explained that the community to which Ilhan and Maryan were returning was not unlike this tight-knit Somali group in Houston.

“They have a community of loving people and their relatives live close by,” Warfa said, adding that Maryan was somewhat mystified by American life.

At Warfa’s home one evening, Maryan said, “You have all this stuff, all these comforts, but where are your people? You go to work, come back home, park the car in the garage and then you’re inside the house for the rest of the evening. I don’t see anybody outside. There’s nobody. What’s going on? What kind of life is this?”

Maryan told Warfa that her African neighbors and friends helped care for Ilhan, and stuck together through difficult times.

“She told me they eat together,” Warfa said. “If somebody doesn’t have food one day, you can always find someone who will share what they have.”

As the evening wound down, Ilhan, who had been in and out of her mother’s lap, found a quiet spot by herself and polished off a piece of cake. The adults started to clean up.

Maryan looked over at her daughter, smiled, and said: “She’s tired. She wants to go home.” ■





# Hopes for 2018

City and Texas Medical Center leaders share their aspirations

In 2017, Houston hosted Super Bowl LI, suffered the wrath of Hurricane Harvey, and celebrated—for days—when the Astros won the World Series.

As the city looks to 2018, *Pulse* asked local leaders about their goals and expectations for the new year.



**SYLVESTER TURNER** ▲  
*Mayor of Houston*

“I would love to eradicate homelessness. We have made great strides, and have recently placed 500 people in shelters, but we have a long way to go. The issue is complex and requires experts in mental health, drug addiction and affordable housing to continue working on this important challenge which faces so many cities.”

**STACEY BERG, M.D.** ►  
*Director of the palliative care and developmental therapeutics programs at Texas Children’s Cancer and Hematology Centers*

“I see a great need for effective new treatments for children with difficult-to-treat cancers. Every new anti-cancer agent we test looks promising

in the laboratory, but many don’t work in humans. Therefore, if I could solve one major problem, it would be to find a “fail early” way to identify ineffective treatments before we try them in people. This would increase the likelihood that the new drugs we offer patients would work. Meanwhile, I expect some exciting advances in this area in the next year. Our new NCI-Children’s



Oncology Group Pediatric MATCH study will help us understand whether testing tumors for molecular targets and using drugs that “match” those targets will increase the chance that a child’s tumor will have a good response. This study is open now and will be in full swing in 2018.”

**BRENDAN LEE, M.D., PH.D.** ►  
*Robert and Janice McNair Endowed Chair and professor of molecular and human genetics at Baylor College of Medicine*

“In terms of genetic treatment, I think 2018 is going to be a very exciting year based on some developments at the end of this year.

The FDA had its advisory committee meeting on a recommendation for the first ever in vivo gene therapy drug in the U.S.— meaning injected directly into the patient. In fact, I was on the FDA advisory committee that recommended with a vote of 16-0 to move forward and approve the drug.

That’s going to be a big deal because next year is going to be the first in vivo gene therapy drug approved in the U.S. That will, more importantly, open the gates to many other such applications.

I’m also hopeful that the passage of the 21st Century Cures Act, which increased funding for medical research and encouraged the development of experimental treatments, will galvanize disease therapeutic application and discovery. I’m expecting that 2018 will see many, many new therapeutics for rare diseases, especially, impacting in aggregate many American lives because there are a lot of rare diseases.





I do think that's one of the ways the 21st Century Cures Act will accelerate, so I'm very hopeful for that in 2018."

**GARY TINTEROW** ▼  
*Director of the Museum of Fine Arts Houston*

"I wish that Hurricane Harvey and the flood had not occurred. And I think all of us are in reparation mode.... The performing arts venues downtown

were severely impacted. All of us are doing everything we can to assist our colleagues, provide interim facilities, to lend expertise and resources to help people rebuild their programming. Many of the cultural venues are showing a decline in attendance and I'm hoping that as time progresses and people resume their normal lives, that they will take the time to refresh and inspire themselves through cultural activities.

The new Glassell School of Art building is set to open in mid-May and it will be a much more distinctive and dramatic building—we have considerably more space and many more classrooms. Although we are increasing the physical space somewhat, we are dramatically increasing the capacity for instruction because of the way the facility is designed. When the school opens it will not just be the school, but a brand new public plaza, an outdoor amphitheater, and a roof garden. Those three new facilities will dramatically enhance our campus and the experience of visitors to the museum.

(continued)



Credit: Jenny Antill Clifton

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We currently have three buildings under construction—the Glassell School of Art, the Sarah Campbell Blaffer Foundation Center for Conservation and the Nancy and Rich Kinder Building for modern and contemporary art. Those are three independent buildings that will be connected by tunnels.

We’ve come to think of Houston as the best kept cultural secret of the world. It is phenomenal what goes on in the arts here—from the performing arts to the visual arts. Houston, because of our geographic location and the distance to other metropolitan locations, is not yet a major tourist destination, although our cultural facilities rival those of all the great capitals of the world.”

**ERIK HALVORSEN, PH.D.** ▶  
*Director of the Texas Medical Center Innovation Institute (TMCx)*

“Our program is in a really good place to help existing health care startup companies move their product closer to patient use, whether they have medical devices, digital health or diagnostics. We have put together a great team and our curriculum and advisor/mentor network is second to none in the country.

However, we are always working to improve. One of those improvements is that we are not yet adequately capturing and supporting all of the amazing innovations, intellectual property and research arising across the Texas Medical Center. Right now, if you have a company, we can help you, but we want to build new companies around TMC innovations.

We are continuing to grow our expertise, and eventually our goal is to build out an entrepreneur-in-residence program that will increase the number of home-grown health care companies.

We will work to build closer relationships and collaborate with the technology transfer offices across the Texas Medical Center.

With those goals in mind, we recognize the challenges. There are two big gaps in Houston: People and capital. The people part is the pool of

entrepreneurs who see that role as a career and are willing to do the job of building multiple companies. We don’t have as many here as, say, Boston or Silicon Valley.

On the capital piece, fortunately, we will see lots of changes in 2018. The \$25 million TMC Venture Fund was recently announced, along with our first few investments. In addition, we continue to see an increased interest from venture funds across the country in what is going on here in Houston. They are spending more time here and considering opening up offices. The city, through Houston Exponential, also has recently announced a ‘fund of funds’ strategy that will further increase venture fund presence and investment here in Houston.



With new venture funds emerging and growing our pool of health care entrepreneurs, I believe we will see fundamental and long-lasting changes to the Houston innovation ecosystem.”

**ROLA EL-SERAG, M.D.** ▶  
*Women Veterans Health Program Medical Director at Michael E. DeBakey Veterans Affairs Medical Center Houston*

“I have had the privilege of serving female veterans whose courage and resiliency are both humbling and inspirational. For 14 rewarding years, my female veteran patients have entrusted me with their very personal



and, often, painful stories regarding their military experiences.

Twenty-three percent of female veterans surveyed will admit to a history of sexual harassment in the military, likely a gross underestimate due to the difficult nature of answering such a question. In our Women’s Health Center, the number is closer to one out of every two female veterans. The profound impact that military sexual trauma has on our female veterans is beyond fathomable.

Young women proudly join the armed forces eager to serve our nation and defend our freedom, but leave devoid of all dignity, betrayed and humiliated often not just by their perpetrator but by an entire system and culture. One of my patient’s once said to me regarding her service in Iraq: “I never imagined that the real enemy was within. I locked my door every night out of immense fear, not of the gunfire and bombs I could hear surrounding our base, but of my fellow soldiers.”

The effects of military sexual trauma last a lifetime and encroach upon every aspect of a female veteran’s health and overall wellness, including family and intimate relations, employment, ability to cope with stressors, chronic pain and chronic disease. This leads to avoidance behaviors, substance abuse, and self-neglect.

It is very timely that both the entertainment industry as well as our political infrastructure are currently under scrutiny for perpetuating a culture of sexual harassment and degradation of women.



Accordingly, I wish that 2018 brings our female veterans the validation they deserve—the recognition of this gross mistreatment and abuse in the military.”

**ARTHUR “TIM” GARSON JR.,** ▶  
**M.D., MPH**  
*Director of the Texas Medical Center  
Health Policy Institute*

“In 2018, I hope our policymakers give health care providers, insurers, and—most importantly—consumers, more confidence and more stability in their health care. One way they can do that is by passing bipartisan legislation, introduced by Sens. Lamar Alexander (R-Tenn.) and Patty Murray (D-Wash.). Their bill would restore subsidies that help lower deductibles for people with low incomes. The legislation was proposed after the Trump administration announced it would end those subsidies, called “cost sharing reductions,” in October.

If Alexander-Murray passes, states would also have the option to get waivers that allow them to experiment with their insurance markets. The good news: States could experiment with “catastrophic” plans that have low deductibles and cover accidents,

serious illness and pregnancy. Such plans would be attractive to many people. The bad news: If states overdo it, they may permit skimpy plans that cheat people. Consumer Reports said that these plans (often called “association” health plans) were “so riddled

with loopholes, limits, exclusions and gotchas that [patients] won’t come close to covering their expenses if they fall seriously ill.”

Alexander-Murray—or any other proposal that realistically has a chance of becoming law in 2018—will only be able to address health care at the edges. Lawmakers don’t like making dramatic policy changes in election years. Maybe that’s not a bad thing at the moment. Congress’s last attempt at health care reform would have robbed more than 20 million people of health insurance. We need reasoned debate on how all Americans can have affordable health care; the only way to get there is to reduce the cost of health care. That is not a quick, back-room event.

In 2018, let’s get the subsidies back for now, provide some stability to the insurance markets, and get through the mid-term elections. Then we can spend time and energy fixing our broken health care system.”



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Events hosted by the DeBakey Institute for Cardiovascular Education & Training

### THIRD ANNUAL

#### Houston Heart Failure Summit

**FEB. 9** ■ [events.houstonmethodist.org/houstonheartfailure](https://events.houstonmethodist.org/houstonheartfailure)

Course Director: Jerry D. Estep, MD

### EIGHTH ANNUAL

#### Multimodality Cardiovascular Imaging for the Clinician

**FEB. 23-25** ■ [events.houstonmethodist.org/cvimaging](https://events.houstonmethodist.org/cvimaging)

Course Director: William A. Zoghbi, MD

### NINTH ANNUAL

#### Re-Evolution Summit (MICS)

**APRIL 5-6** ■ [events.houstonmethodist.org/reevolution](https://events.houstonmethodist.org/reevolution)

Course Director: Mahesh Ramchandani, MD

### A WEEKLONG HANDS-ON WORKSHOP

#### Houston Methodist CMR

**APRIL 23-27** ■ [events.houstonmethodist.org/cmri](https://events.houstonmethodist.org/cmri)

Course Director: Dipan J. Shah, MD

### SECOND ANNUAL

#### Cardiology for the Non-Cardiologist

**JUNE 9** ■ [events.houstonmethodist.org/cardiology](https://events.houstonmethodist.org/cardiology)

Course Director: Alpesh R. Shah, MD

### SIXTH ANNUAL

#### Southwest Valve Summit

**OCT. 4-6** ■ [events.houstonmethodist.org/swvalve](https://events.houstonmethodist.org/swvalve)

Course Director: Colin M. Barker, MD

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### THE FOLLOWING EVENTS ARE FOR TRAINEES:

#### Pre-Intern Training for Vascular Residents

**JUNE 6** ■ [events.houstonmethodist.org/pre-intern](https://events.houstonmethodist.org/pre-intern)

Course Director: Alan B. Lumsden, MD

#### Cardiovascular Fellows' Boot Camp

**AUG. 10-12** ■ [events.houstonmethodist.org/2018cvbootcamp](https://events.houstonmethodist.org/2018cvbootcamp)

Course Director: Alan B. Lumsden, MD

### THE FOLLOWING EVENT IS FOR PATIENTS AND FAMILIES:

### SECOND ANNUAL

#### Houston Heart Failure Management Conference

**APRIL 7** ■ [events.houstonmethodist.org/hfmanagement2018](https://events.houstonmethodist.org/hfmanagement2018)

Course Director: Arvind Bhimaraj, MD

Contact [dicet@houstonmethodist.org](mailto:dicet@houstonmethodist.org) for further information.



### CHARLENE FLASH, M.D. ▲

*Assistant medical director of HIV services for Harris Health System and assistant professor at Baylor College of Medicine*

"I would improve access in our most vulnerable communities to life-saving tools for the treatment and prevention of HIV and other diseases."

### BILL GILMER, PH.D. ▼

*Director of the Institute for Regional Forecasting at Bauer College of Business, University of Houston*

"American oil production bottomed out at 5 million barrels per day in 2010, only to surge past 9 million by late 2014. This dramatic turnaround was the product of \$100 per barrel oil and the advent of a new U.S. fracking industry. But in late 2014, OPEC decided that enough

was enough, and withdrew its efforts to support global oil prices, letting oil prices plummet to crush the high-cost American upstart.

Damage to American oil this time has, by many measures, been worse than the 1980s, with a faster decline in oil prices, the lowest level of drilling activity ever recorded, and a record fall in capital spending on oil exploration. Some 77,000 oil-related jobs were lost in Houston. Unlike the 1980s, however, Houston's economy did not collapse in 2015-16, but simply shifted from boom times to two years of no growth. Offsetting oil losses, the local economy was supported by moderate growth in the U.S., sustained boom-time momentum, and a major petrochemical expansion on the Ship Channel.

Houston began 2017 on a high note, as analysts declared that oil markets were entering recovery, and OPEC returning to action with a promise to do 'whatever it takes' to support oil prices. But euphoria in oil markets and the Houston economy was short-lived, as oil prices remained mired at \$45 for much of 2017. Local oil-related hiring briefly surged and then fell back, and now we find the rig count once more in moderate decline.

Oil prices moved up again late in 2017. However, if this oil-market optimism fades in 2018, as it did in 2017, and oil jobs don't return in large numbers, only the U.S. economy is left to support Houston's growth. The Ship Channel construction boom has ended, and any boom-time momentum is gone. Relying on the U.S. economy alone, Houston could create 40,000 new jobs





in Houston in both 2017 and 2018—a return to positive growth, but well below long-term averages.

If oil prices surprise us in 2018 with a quick return to \$55–65 per barrel, we could hit that long-term average of adding 60,000 jobs. At this point, however, with little help from oil, 40,000 jobs seems the most likely outcome.”

**BRIAN GREENE** ▶  
*President and CEO, Houston Food Bank*

“Charitable giving in the U.S. amounts to about 2 percent of the gross domestic product, but there are about 1.5 million nonprofits and a bewildering landscape for donors to know how to best invest their funds, given the issues about which they are passionate.

My wish for 2018 would be for an efficient way for donors of all sizes to know the charities they support better and how they can invest with impact.”

*These statements have been edited for clarity and length.*



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# Simulating Nursing

*Texas Woman's University offers around-the-clock training inspired by NASA*

BY ALEXANDRA BECKER



*Students at Texas Woman's University College of Nursing hone their clinical skills during a 72-hour simulation training. Modeled after a NASA curriculum, the program is an opportunity for students nearing graduation to apply their knowledge in a real-world environment. Far right: Connie Ayers, Ph.D., RN, who helped develop the program, consults with a student.*

Francine Hines is calling out in pain and asking for her family. “Why does it hurt so bad?” she groans. “Please, where is my daughter?”

Last week, Hines underwent a total hip replacement and was transferred to a nursing home where she fell and dislocated her new hip. She was brought to the ICU and is currently being transferred to another wing in the hospital. All around her, nurses are scooting IV poles, shuttling meds and checking IDs. It's highly-organized chaos, reminiscent of all busy hospital units.

But this isn't a real hospital, and Hines isn't a real patient.

The scenario is part of an immersive 72-hour simulation training created

at Texas Woman's University College of Nursing. Modeled after a program designed by NASA educators during the space shuttle era, this integrative training is one-of-a-kind and runs around the clock.

Nursing students nearing graduation work three 12-hour shifts beginning at either 6 a.m. or 6 p.m., and, just like a real hospital, are called on to juggle complex, multi-patient scenarios that require critical thinking. At a time when increased litigation and a narrowing focus on patient interaction has all but eliminated opportunities for nursing students to gain hands-on experience, this program offers a place for students to hone their skills, ask the

right questions and most importantly, fail safely.

“This is where you want them to make mistakes. You don't want them to make them in the real world, so let's catch them here,” explained Andy Foster, a former astronaut instructor whose input shaped TWU's program. “The whole idea is to really push the team, everybody on it, and find out what do you really know and what do you not. And then deal with the real-world consequences of all that, because that's what's going to happen in a hospital.”

The idea for this type of training started seven years ago when Foster's wife, Connie Ayers, Ph.D., RN, an associate professor at TWU's College

of Nursing, noticed that her students were given fewer and fewer opportunities to practice their clinical skills in the hospital. Final semesters were too often spent passively shadowing preceptors—nurses or advanced care providers already in the workforce. Ayers, a veteran nurse and educator, was concerned.

“Clinical experiences were getting more observational in nature because of the patient safety climate and legal aspects of care, and it was no longer prudent for nurses to allow students to have full decision-making authority,” Ayers said. “I was talking to Andy and asking him, ‘How could we get those same kinds of experiences that provide





“This is where you want them to make mistakes. You don’t want them to make them in the real world, so let’s catch them here. The whole idea is to really push the team, everybody on it, and find out what do you really know and what do you not. And then deal with the real-world consequences of all that, because that’s what’s going to happen in a hospital.”

— ANDY FOSTER

*Former astronaut instructor whose input shaped TWU’s program*

Provider: Caroline, #2155		Charge Nurse: Cass
Pharmacy: Front desk		PCA: Katie
		PRECAUTIONS: 4, 12
BED	NURSE	CENSUS
1, 2	Katie Jo	1: Hines
3, 4	Lillian	2: Proun
5, 6	Judith	3: Breed
7, 8	Earl	4: Calhoun
9, 10	Jo	5: Olsen
11, 12	Marlene	6: Poud
		7: Tyler
		8: Dink
		9: Highland
		10: Brown
		11: Baker
		12: Oleson
		ANTICIPATED D/C



decision-making opportunities and the opportunity to make a mistake and learn from that?”

Foster explained that multiple teams and organizations were involved in each space mission, in addition to the astronauts who were trained exhaustively on all parts of the shuttle system and orbital stations. All those people and organizations needed to learn to work together before blast-off, so the group always had a comprehensive dry run.

“You picked the most critical 72-hour part of the mission where your primary mission objectives are being executed and you ran it around the clock, just like you would for the real

thing,” Foster said. “That integrative simulation where you have all the different facilities is the one that gives you the really big picture.”

Ayers took the idea and ran with it. It was a time-consuming project with an overwhelming number of moving parts, but with help from Foster and Teresa Maharaj, Ph.D., RN, an assistant professor at TWU’s College of Nursing, Ayers created an entire hospital ward from scratch, and designed patients, too. Amid real hospital beds, IV pumps, wound care carts and the incessant beep of monitors, nursing students immersed in the simulation treat fellow students acting the parts of patients—a homeless man in need of a

toe amputation, a patient with PTSD, an individual going into hospice care, a drowning victim, a woman with a postpartum hemorrhage, patients with varying religious beliefs that impact treatment decisions and ethical conundrums, all with competing demands to mimic real life. The team also created accompanying medical records to support the scenarios, complete with full histories, medication information and diagnoses.

“It has all the characteristics of the hospital environment—patients come and go from surgery, they get admitted, they get discharged, they have orthopedic surgery, family members are here,” Ayers said. “We’ve had chaplains, social

workers—everything that would happen happens. It’s 24 hours a day and it gives them that reality of being on their own in a hospital environment.”

The students acting as patients get their direction from more than 100 pages of intricate scripts crafted by Ayers and her team. Contingencies are written into the pages like an if-then flowchart and are determined by the treatment decisions the nursing students make in real time, including any mistakes. Sometimes, Ayers and her colleagues have to whisper into the ears of the students playing patients to tell them their nurse made an error and to proceed with a certain scenario.

(continued)

During a recent simulation exercise, a nursing student administered too much morphine to her patient. The instructors directed the student playing the patient to become drowsy and difficult to arouse so that the nursing student would realize the mistake on her own. The nursing student had to play out the scenario by speaking to a provider about the error, ordering and administering an antidote and filling out an incident report.

"She was visibly shaken," Ayers said. "It really created quite a learning experience for her."

It was an invaluable opportunity to learn from failure with no harm done to the patient. That nursing student will likely never make a mistake with morphine again.

Foster summed it up perfectly: "At NASA, you never tried to purposely kill the crew, unless they hadn't learned something that would kill them."

That ability to fail in a real-world environment without real-world consequences is what makes the program so unique.

"The model that we use nowadays,

where we place students with a preceptor in the hospital, the preceptor is so into her own job that she doesn't really talk to a student as an instructor might. So they're not thinking through things, they're not saying, 'Well, we're going to hang this IV and this is how you hook up the tubing and this is the reason we hook up the tubing this way,'" explained Maharaj. "The students in the SIM, they're actually having to do it. They're having to fumble through it and work through and critically think, 'How am I giving this IV push? How fast am I giving it? How fast am I supposed to give it?'"

"I think the beauty of that is that it causes self-reflection, which is so critical," added Wayne Brewer, PT, Ph.D., MPH, assistant professor and professional program coordinator for TWU's School of Physical Therapy.

The simulation training invites the students from other disciplines to participate, including those on physical therapy, nutrition and health care administration tracks. The scripts are tweaked to require their expertise.

"Every accrediting body for a

health care-based field requires inter-professional education now, some interaction between disciplines," Brewer said. "This is so real that it's no longer just a class, but it's like we're actually going over real cases. And the debriefing is a chance to learn what everyone does, which I think is phenomenal. The PT students don't really get a chance to know what nursing does, and vice versa, until you actually sit down and share knowledge."

The professors also enlist support from outside agencies, including the Medical Examiner at the Harris County Institute of Forensic Sciences and an ethicist from The University of Texas MD Anderson Cancer Center, to make the experience that much more realistic.

"We'll have an ethical dilemma with one of the patients; the family wants the mother to continue on with chemo and the mother wants to die, so the ethicist comes in and talks through that," Maharaj said. "It's pretty powerful and by the end the students are practically crying."

In some ways, playing the patient has just as much value for the students

as practicing the role of the nurse.

"The patient experience is meant to be an empathy-building experience for the students as well," Ayers said. "It forces them to step up their game from a professionalism standpoint, which is another aspect we have to work very hard at, these soft skills, besides just the hard, clinical skills."

Student feedback regarding the program is overwhelmingly positive. Ayers said her students came back from job interviews raving about how prepared they felt because some of the questions asked them to consider nearly identical issues they'd handled during the simulation. And although they describe the 72-hour period as challenging, it's the first opportunity they have to be fully independent nurses, to think on their own, and to really, truly, learn.

"You jump in and you either succeed or you learn how to succeed," said Taylor Duck, the nursing student who played Francine Hines, the elderly patient with the hip replacement. "There's really no failing option here." ■



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# Textu

BY FADY A. JOUDAH, M.D.

*Fady A. Joudah, M.D., a physician at Baylor St. Luke's Medical Center, is a nationally and internationally known poet and translator of poetry. Each poem in Textu, Joudah's 2014 poetry collection published by Copper Canyon Press, was composed on a cellular phone's text message screen.*



Credit courtesy photo

## 102

I laugh all the time to keep from crying!  
Next B-day will be on the local news

My body's shifted my tears  
to my nose

which makes  
my great-grandson queasy

## 87

This is no retirement  
you have your body still

symptoms to report  
visits to keep meds to refill

referrals bill after bill relapse recovery  
full-time dying

## Hospice Hymn

You live despite of what  
we do to you not because of it

Stay home  
keep our gadgets

We'll come when the going's tough  
Letting go is in your hands

## Time

It was last night in his sleep  
You have helped him to the best two years

those toolshed days  
Do you know for sure Doc

if your last words to him  
were kind

# Making Muscles

*Doctors and physical therapists are demystifying pelvic floor care*

BY CHRISTINE HALL

Following the birth of her second child, Vanessa Schlitzkus had horrible back pain, well beyond typical post-delivery aches. On top of that, she found it harder to control her bladder.

“A lot of times, I thought I would not be able to make it to the bathroom,” Schlitzkus said.

After running some tests, her obstetrician suggested she see Apruva Pancholy, M.D., a urogynecologist affiliated with Memorial Hermann Memorial City Medical Center and an assistant professor at McGovern Medical School at The University of Texas Science Center at Houston (UTHealth).

Pancholy told Schlitzkus that her pelvic area had not returned to its pre-pregnancy condition, hence the back pain. In addition, her uterus was

“It is an everyday quality of life issue that people deal with day in and day out.”

— APRUVA PANCHOLY, M.D.

*Assistant professor at McGovern Medical School at UTHealth*

showing signs of prolapse from the recent delivery, meaning the muscles underneath it were so stretched out or weak that her cervix had started to descend downward toward her vagina.

Pancholy suggested some pelvic floor physical therapy to help prevent further damage. That's when Schlitzkus started seeing Gail Zitterkopf, a specially trained physical therapist, and doing daily exercises at home.

## ‘Everyday quality of life issue’

The pelvic floor is made of bone, muscle and connective tissue. Weakness in this area can lead to a prolapsed uterus, bowel troubles or other issues. Pelvic floor weakness can be a result of pregnancy, long-term constipation, aging—even for those who've never had children—and genetics.

“It is an everyday quality of life issue that people deal with day in and day

out,” Pancholy said. “They are buying multiple feminine pads and incontinence pads every month, and they want to know what their options are.”

People simply used to accept this condition, he said—especially women, who have almost come to expect bladder issues after having children. But this is not normal or OK, he added.

Slowly, women are becoming comfortable talking about pelvic floor issues, which could be attributable to advertisements with celebrities who admit they wear incontinence pads. These pads are now designed less like diapers and more like underwear.

Many of Zitterkopf's referrals come from book clubs and from women who received treatment for pelvic floor weakness in other countries.

“This is a standard of care for women, especially in France,” Zitterkopf said. “When you have a baby, you have pelvic therapy. We are not quite as evolved as France, and they tell me stories of having to argue with their doctors to be referred here for care.”

Men also suffer from pelvic floor disorders, including urinary and bowel issues, that are a result of weakened pelvic muscles.

“Men are probably the most dedicated patients we have,” Zitterkopf said. “Ladies get used to their menstrual cycle and wearing pads, but men are not as accepting of why they are leaking, so they do their exercises.”

## Expanded treatment

Schlitzkus first started seeing Zitterkopf and her team at an office in West Houston. But in October 2016, Zitterkopf and Pancholy relocated to Memorial Hermann-Memorial City Hospital to operate out of its new pelvic floor unit—the first of its kind in the area that is dedicated to pelvic floor disorders.

The 4,200 square-foot center



*Vanessa Schlitzkus, right, works with April Dominick, a physical therapist, in the Pelvic Floor Health Center at Memorial Hermann Memorial City Medical Center.*





*Schlitzkus in a therapy session.*

features private therapy rooms, a noninvasive nerve stimulation room, and dedicated male and female dressing areas, including warm robes for those needing a procedure. The space houses urogynecologists like Pancholy, as well as OB/GYNs, colon and rectal surgeons, gastroenterologists and urologists.

The new space allows for more privacy and more innovative treatment solutions, Zitterkopf said. Those include chairs to monitor bowel movements and a biofeedback machine that helps patients learn how to strengthen their muscles, track which ones they are using, and if need be, receive electric stimulation that causes the muscles to contract so the patients can feel how the muscle is working.

"Much of the physical therapy has been turned into games ... patients even call it a gym," she said. "They learn to squeeze and contract the muscles by making a rose bloom or docking a space shuttle."

Patients also learn techniques to do at home, the most common being Kegel exercises and breathing exercises, to decrease the pressure that is being put

on the pelvic area.

And new treatments are becoming available. In addition to medication, treatments include Botox for the bladder. Pancholy is also looking at new research on neurostimulation, which stimulates the nerves to control the bowel or bladder. It is similar to treatments he is currently using, but less invasive.

"Patients are doing well with this, and the outcomes are good," Pancholy said. "As a physician, we are happy to have this option because it used to be just physical therapy, medication and surgery."

Meanwhile, Schlitzkus recently passed her evaluations and she no longer needs the physical therapy.

"In one way, it's great because I am healed," she said, "but in another, it's kind of sad because I have been going once a week for the past two years."

The therapy helped her utilize her pelvic muscles, which initially took concentration to do, but now she is able to engage them without thinking. She said she is continuing with the exercises to keep the pelvic muscles strong and to help with bladder control. ■

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# A Race Against the Clock

*TMCx startups are designing medical devices to diagnose and treat patients more quickly*

BY CHRISTINE HALL



Sathya Elumalai, CEO of Multisensor Diagnostics, left, discusses his medical device, MouthLab, with Fox 26 Houston reporter Ruben Dominguez and Erik Halvorsen, Ph.D., director of the TMC Innovation Institute.

Sathya Elumalai says his mother, who suffers from multiple chronic conditions, is like many other patients: She doesn't want to keep going back to the doctor to have her vital signs monitored.

While some doctors send patients home with devices to take vital signs, patients often need assistance and the process can take as long as 15 minutes, said Elumalai, CEO of Baltimore-based Multisensor Diagnostics. And most

likely, this is just one of many things patients must deal with on a daily basis, so they don't want another thing to manage, he added.

The frustration Elumalai observed in his mother and other patients inspired him to create MouthLab, a portable, handheld device inserted in the mouth to record key vital signs—temperature, blood oxygen saturation, breathing rate and pattern, pulse rate and blood pressure—in just 30 seconds.

That pressing need to get things done faster has led companies to create diagnostics, laboratory testing and medical devices that perform tasks more quickly and accurately.

Multisensor Diagnostics is among a handful of startups that brought their time-related devices to the Texas Medical Center as part of the TMC Innovation Institute's recent TMCx medical device accelerator. Other time-related devices included a screening device for stroke and a portable device that provides blood test results in 20 minutes.

Nearly half of all medical care in the United States is performed in emergency departments, according to research. Timeliness is a key issue in treating a multitude of conditions, including stroke, when the flow of oxygen-rich blood to a portion of the brain is blocked.

"Time is everything in stroke, and it is the No. 1 cause of disability," said Matt Kesinger, CEO of Forest Devices, a Pittsburgh-based startup. "The only way to prevent it is by early treatment, and the only way to ensure early treatment is to get to the right hospital that can treat you."

Seventy percent of the country does not live near a stroke hospital, Kesinger said, and typically it takes between three or four hours for a stroke patient

**“Time is everything in stroke, and it is the No. 1 cause of disability. The only way to prevent it is by early treatment, and the only way to ensure early treatment is to get to the right hospital that can treat you.”**

— MATT KESINGER  
CEO of Forest Devices



Matt Kesinger, CEO of Forest Devices, explains his stroke detection device, AlphaStroke.





Ryan Kuriakose, PharmD., Orphidia's vice president of strategy and business development, discusses Orphidia's portable device.

to get treatment.

But Forest Devices is addressing this problem with AlphaStroke, a portable device used at the point of initial triage to identify stroke patients and get them to the right place in time to receive clot-busting drugs.

AlphaStroke works like a shower cap. It fits around the patient's head, with wires connected to the device and electrodes attached to the patient's wrists. The device helps determine whether or not a patient is having a stroke and, if so, where the nearest stroke hospital is so the patient can get care.

Another time-consuming part of health care is waiting for the results of blood tests. Patients wait anywhere from days to weeks.

Orphidia, a San Francisco-based startup, touts itself as an "app store for labs" that aims to redefine the laboratory experience.

Typically, a patient will see a doctor who will order tests. Depending on the doctor's office, the patient will either have blood drawn to be sent off for analysis, or the patient will have to drive to a separate laboratory testing facility to

have the blood drawn. Then the patient must wait for the results.

But Orphidia is developing a portable device that can run 40 common tests from a single drop of blood and provide results in about 20 minutes.

Ryan Kuriakose, PharmD., Orphidia's vice president of strategy and business development, said he and many other doctors think this device will improve physician work flow because it provides results in real time—during the patient's visit with the doctor.

Although physicians may finish seeing patients at 3 p.m., he explained, they typically remain in the office for several additional hours to follow up on lab tests and call patients.

"Instead of the long process, you get the results straight away and get a diagnosis," said Aron Rachamim, Ph.D., founder and CEO of Orphidia.

Multisensor Diagnostics, Forest Devices and Orphidia all graduated from the TMCx accelerator program in November and will continue working to get their devices into hospitals or onto ambulances.

Ultimately, Elumalai was able to get his mother to try MouthLab, and he is helping her use it. He is notified when it is time for her to check her vitals, and he calls to remind her.

"We want to change the culture of health care monitoring," Elumalai said. "All we ask for is 30 seconds." ■



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# Health Care Myths and Realities

*Some long-held assumptions simply aren't true*

BY RYAN HOLEYWELL

Arthur “Tim” Garson Jr., M.D., MPH, who leads the Texas Medical Center Health Policy Institute, is co-author of the book *Health Care Half-Truths: Too Many Myths, Not Enough Reality*. A physician and former medical school dean, Garson challenges commonly-held notions about the U.S. health care system. He spoke with *Pulse* about health care “myths.”

**Q | Does the U.S. really have the best health care in the world?**

**A |** When you ask people whether the U.S. has the best health care in the world, the vast majority say “yes,” but when you ask how you measure that, you get blank stares. Two major measures are infant mortality and life

expectancy. Depending upon the year, the U.S. ranks about 50th in each, which shocks people.

Medical care, on the other hand, is what doctors and nurses and patients do together. How many breast cancer screenings do we perform? What’s the mortality rate for coronary bypass? We are good at a few things—for example the U.S. ranks first in breast cancer mortality. But in the overall index of the rate of preventable deaths, we’re at the bottom of wealthy countries, ranked 18 out of 18.

There’s a frequently cited paper that says 10 percent of life expectancy is due to medical care, and 90 percent is the other things, including 40 percent that is due to people’s own behavior.



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If we want to improve health care, we can do a lot more by helping people quit smoking, overeating, doing drugs and committing murders.

**Q | We hear all the time about how preventive care can save money, but you argue that’s not really the case. Could you elaborate?**

**A |** Let’s be really clear: prevention is important and must be done. But it rarely saves money. There are a lot of things that we do that are good for all kinds of reasons but don’t save money. In the case of prevention, saving money isn’t the point. The point is to keep people healthy.

For example, do immunizations save money? Measles immunizations do, because measles can result in a person becoming brain damaged, living a long time and requiring lots of expensive care. Preventing measles saves money. Some of the other immunizations are important to keeping people healthy, but they just don’t save money.

Here’s a real paradox: In a really well-done study, it was shown that over a very long time frame, smoking actually saves money. Why? If you smoke, you die earlier, and you don’t spend money over the course of a longer life.

**Q | One of the things we’ve heard during the debates about health reform is that people can get insurance if they just go to work. Should we believe that?**

**A |** No. Uninsured people work. Data show that more than 70 percent of uninsured people come from working families. The real problem is that many

of these people work for employers who aren’t offering insurance to their workers. Fewer than half of small businesses offer health insurance to their workers, according to the Kaiser Family Foundation.

As we discuss and debate the future of health care in this country, it’s important to understand that today, having a job doesn’t necessarily equate to having insurance.

**Q | You published your book 10 years ago. How have your attitudes about the health care system changed?**

**A |** I’m more pessimistic now. In 2017, we were just one vote away from taking health insurance away from 20 million people, instead of giving health insurance to more people. I hope that’s a short-term aberration, rather than a view from our leaders who’ve decided the best thing we can do as a country is take health care away from 20 million people.

I was more optimistic in 2007. The last chapter of the book predicted that we would get a better health care system, but it would take a major disaster of some sort. I was wrong. We had the financial collapse in 2008, and despite the Affordable Care Act, there was no fundamental change to health policy.

At some point, we’ll have a real safety net system, like just about every other country. We’re the only outlier. What I don’t know is what it will take for us to get there. But we have to keep trying. ■

*This interview has been edited for clarity.*



# What Do Your Keystrokes Say About Parkinson's?

*Analyzing typing patterns may help diagnose the disease*

BY CHRISTINE HALL

By the time Parkinson's disease is diagnosed, the damage is likely already done.

But what if there was a way to check for early signs of this progressive disorder of the nervous system? What if a smartphone app or computer keyboard could pick up Parkinson's just from the way someone swiped or typed? What if it could determine how well people with Parkinson's are responding to their medications?

Using a combination of digital health applications and artificial intelligence (AI), Luca Giancardo, Ph.D., and other scientists in the Center for Precision Health at The University of Texas Health Science Center at Houston (UTHealth) have created a program that can isolate differences in the typing signatures of people with and without Parkinson's disease.

As the population ages, the number of people diagnosed with the disorder is expected to rise. Warning signs of Parkinson's include rigidity or resting tremors, but with earlier intervention, doctors may be able to slow these symptoms.

Yet Giancardo, an assistant professor at UTHealth, said it's not practical to test everyone for the onset of Parkinson's, even if there was an easy way to do it. Rather, it is better to monitor an activity people are already doing regularly to see if there are any clues that could lead to a possible diagnosis of the disorder.

With that in mind, he developed a program that analyzes typing signatures—the keystroke patterns and quirks of individual users. The program can be downloaded onto a computer or smartphone and runs in the background while users go about their day, using their computers and smartphones as they normally would.

Giancardo calls this type of monitoring “passive monitoring,” to denote a test that doesn't require any kind of special activity and can be done outside of the clinic. The goal, he said, is to find hidden patterns in the movements.

The average person takes 100 milliseconds to press and release a key, he said. Whenever a person types on a smartphone or desktop computer, the pressure and speed of the movements will generate a score that would quantify the patterns in the typing signatures.

“The measurements include the time from when you press a key until the time you release it,” he added.

At the moment, Giancardo is testing the program to see how people with Parkinson's disease are responding to their medications. Although the program is still in the research phase, results suggest that changes in the typing signature could indicate that a medication is not working.

“We've learned from some animal studies that if we could diagnose people seven to 15 years earlier, we could get them using drugs designed to slow the neuron degeneration,” Giancardo said.

Giancardo hopes one day to extend these AI techniques to other conditions, including Alzheimer's, and to integrate them with imaging and other tools.

Mya Schiess, M.D., has been working with Giancardo for the past year and said this technology could be used to measure the mobility of individuals afflicted by Parkinson's.

“We could profile their mobility and, once we get their measurement, show change over time or rate a disease that is progressive,” said Schiess, vice chair of neurology and the Adriana Blood Endowed Chair in Neurology at McGovern Medical School at UTHealth, and a member of the



Mya Schiess, M.D., left, is working with Luca Giancardo, Ph.D., on “passive monitoring” of keystrokes to help diagnose Parkinson's disease.

medical staff at Memorial Hermann-Texas Medical Center.

She is also working to get patients who have had deep brain stimulation to treat their Parkinson's involved with Giancardo's program.

A typing profile could show how a person might benefit from deep brain stimulation, which implants a

stimulator—similar to a pacemaker—that sends electrical impulses to electrodes implanted in the brain. After this treatment, she said, researchers would be able to show improvement in some tasks and neuroplasticity.

“This is on the verge of becoming a very important investigative tool and biomarker,” Schiess said. ■



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[1] **ERIK ANTONSEN, M.D.**, assistant professor of emergency medicine and of space medicine at Baylor College of Medicine, received the NASA Early Career Achievement Award in recognition of his work on advancing health in space to enable future human missions to Mars.



1

[2] **CARRIE L. BYINGTON, M.D.**, dean of the Texas A&M College of Medicine, senior vice president of the Texas A&M University Health Science Center and vice chancellor for health services at The Texas A&M University System, has been elected to the National Academy of Medicine.



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[3] Texas Medical Center President and CEO, **WILLIAM F. McKEON**, was the featured speaker at the **SAN JOSÉ CLINIC** annual Fall Speaker Series luncheon. From left, McKeon; *Houston Business Journal* President and Publisher, **BOB CHARLET**; San José Clinic President and CEO, **PAULE ANNE LEWIS**; and San José Clinic Advisory Board Chair, **PHIL MORABITO**.



4

[4] **GIUSEPPE COLASURDO, M.D.**, right, president of **THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON**, onstage with **ROBERT AND JANE CIZIK**, to announce the new name for UTHealth's nursing school: **THE JANE AND ROBERT CIZIK SCHOOL OF NURSING AT UTHealth**. The school was renamed after a \$25 million donation from the philanthropic couple.

[5] **SATHYA ELUMALAI**, CEO and co-founder of Multisensor Diagnostics, pitches his company's stroke device at the **TEXAS MEDICAL CENTER INNOVATION INSTITUTE'S** Demo Day.



5

[6] **MARGARET GATTI**, an independent living resident of **ST. DOMINIC VILLAGE**, celebrates her 104th birthday in December. Gatti enjoys gardening and exercising on an elliptical bike. Her secrets to longevity: "Work hard and get plenty of sunshine."



6

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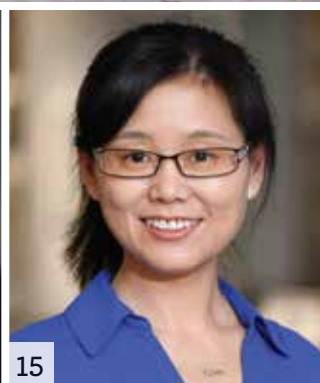
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[7] **SALIM VIRANI, M.D., PH.D.**, associate professor at Baylor College of Medicine and senior researcher at Center of Innovations in Quality, Effectiveness and Safety, is chair-elect of the Prevention of Cardiovascular Disease Section for the American College of Cardiology.

[8] **TRACEY SMITH, PH.D.**, associate professor of psychiatry and behavioral sciences at Baylor College of Medicine and researcher at Center of Innovations in Quality, Effectiveness and Safety, is president-elect of the Association of VA Psychology Leaders.

[9] **DICK EAST**, a co-founder of **RONALD MCDONALD HOUSE HOUSTON (RMHH)**; **WILLIAM H. CUNNINGHAM, PH.D.**, presiding director of Southwest Airlines; and **RICK NORIEGA**, CEO of RMHH, at a luncheon to honor Southwest Airlines as the recipient of RMHH's inaugural Spirit of Hope Award.

[10] Texas Medical Center President and CEO **WILLIAM F. McKEON** toasts **WILLIAM "BILLY" COHN, M.D.**, who took a Sawzall to painter's tape to officially open the **CENTER FOR DEVICE INNOVATION @ TEXAS MEDICAL CENTER (CDI @ TMC)**. Cohn is vice president of Johnson & Johnson Medical Devices and director of the CDI @ TMC.

[11] More than 5,000 patients, friends and employees of **THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER** participated in the second annual Boot Walk to End Cancer, a 1.2-mile walk that aims to 'give cancer the boot.' The event raised more than \$925,000.

[12] The National Diversity Council recognized **MALISHA PATEL**, vice president of operations at Memorial Hermann Southwest Hospital, as one of the Top 15 Business Women in Houston.

[13] **GERARD FRANCISCO, M.D.**, chief medical officer of TIRR Memorial Hermann and chair of the department of physical medicine at McGovern Medical School at UTHealth, has been elected to the National Academy of Medicine.

[14] **V. CRAIG JORDAN, PH.D.**, professor of breast medical oncology at The University of Texas MD Anderson Cancer Center, has been elected to the National Academy of Medicine.

[15] **MENG WANG, PH.D.**, associate professor in the department of molecular and human genetics and the Huffington Center on Aging at Baylor College of Medicine, has been awarded the 2017 Early Career Life Scientist Award from the American Society for Cell Biology.

Credit: Nos. 1, 2, 6, 7, 8, 9, 11, 12, 13, 14, 15 courtesy photo; No. 4, J. Daniel Escareño/UT Health





# Dec. 2017–Jan. 2018

Members of Catapult, a nonprofit that helps physically challenged individuals participate in endurance sports, training in 2016. Catapult members often take part in the Chevron Houston Marathon & Aramco Half Marathon, which will be held Jan. 14, 2018.

## 12/7

### **Off Script: After the Flood**

Storytelling event

Thursday, 5:30 p.m.

Texas Children's Hospital  
Wallace Tower, 3rd Floor  
Blattner Conference Room  
6701 Fannin St.

[achildre@bcm.edu](mailto:achildre@bcm.edu)

713-798-8164

## 12/14

### **Greater Houston Partnership: State of the Texas Medical Center**

Thursday, 11 a.m. – 1:30 p.m.

Westin Galleria Hotel  
5060 W. Alabama St.

Tickets start at \$60; register online at  
[Houston.org](http://Houston.org)

[tleibowitz@houston.org](mailto:tleibowitz@houston.org)

713-844-3644

## 12/12

### **Houston Symphony Holiday Concert at Houston Methodist**

Tuesday, 5 p.m.

Houston Methodist Hospital  
Crain Garden  
6565 Fannin St.

Free and open to the public  
[stkulha@houstonmethodist.org](mailto:stkulha@houstonmethodist.org)

713-441-4048

## 1/9

### **True or False? A Discussion Challenging Everything You Think You Know About Health Care**

Panel discussion led by  
Arthur "Tim" Garson Jr., M.D.,  
hosted by the TMC Health  
Policy Institute

Tuesday, 5:30 – 7 p.m.

6550 Bertner Ave, 6th floor

Free; registration required at  
[tmchealthpolicy.org](http://tmchealthpolicy.org)

## 12/13

### **WomenHeart Houston Support Group**

Wednesday, 11:30 a.m. – 1:30 p.m.

Texas Heart Institute  
6770 Bertner Ave.

[WomenHeartHouston@gmail.com](mailto:WomenHeartHouston@gmail.com)

713-703-7888

## 1/21

### **Fredell Lack Legacy Violin Series**

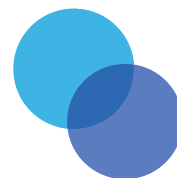
Featuring Joyce Hammann,  
hosted by Moores School of Music

Sunday, 2:30 – 4 p.m.

University of Houston  
Fine Arts Building  
Dudley Recital Hall  
3401 Cullen Blvd.

Tickets start at \$7  
[kgmboxoffice@uh.edu](mailto:kgmboxoffice@uh.edu)

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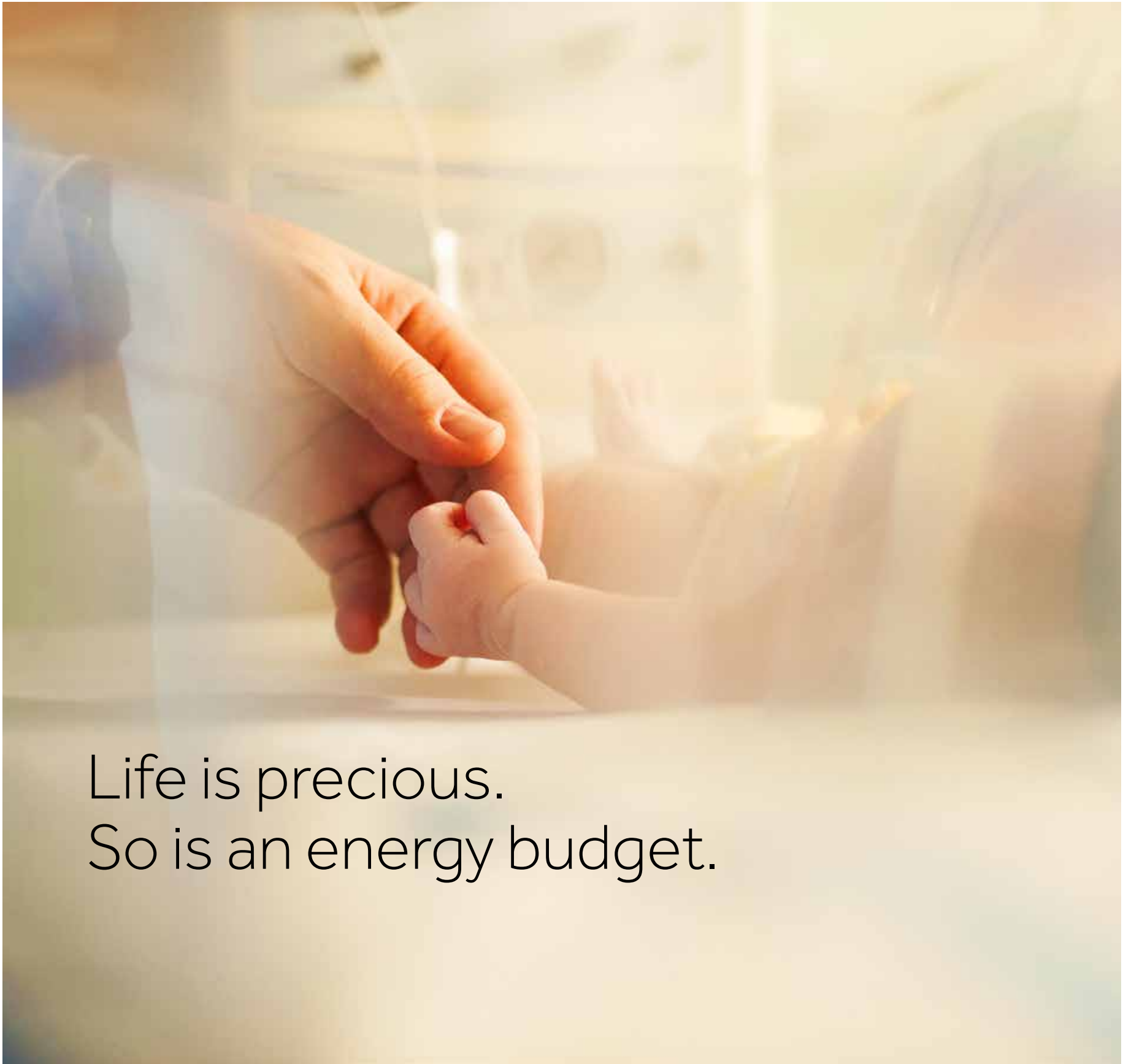


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Lynn Russell, 713.819.4563



### Southgate Blvd.

Southgate, \$2.8+ mil.  
Caroline Schlemmer, 713.446.2716



### Surrey Lane

Bunker Hill, \$2.4+ mil.  
Sharon Ballas, 713.822.3895



### Jan Kelly

Piney Point, \$1.8+ mil.  
Clint Simpson, 281.639.7191



### E. 8th

Heights, \$1.3+ mil.  
Nancy Jane McMillan, 832.476.4137



### Bolsover

Rice/Museum District, \$1.2+ mil.  
Colleen Sherlock, 713.858.6699



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Amanda Anhorn, 832.476.4132



### Trianon

Memorial Close-in, \$620s  
Mary Hale McLean, 713.553.4255



### Main

Commerce Tower, \$590s  
Michele Scheffer, 281.808.8139



### Hadden

Montrose, \$530s  
Sharon Brier, 713.882.9800



### Shoal Landing

Shadow Creek Ranch, \$520s  
Elizabeth Baker, 713.254.1396



### Double Lake Dr.

Sugar Land Area, \$340s  
Norka Jenkins, 951.295.2188

