The Cooley Legacy

The man, and the vision, behind the Texas Heart Institute
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RICHARD A. GIBBS, PH.D., DIRECTOR OF THE HUMAN GENOME SEQUENCING CENTER AT BAYLOR COLLEGE OF MEDICINE, DISCUSSES THE POTENTIAL ROLE OF GENOMIC DATA IN UNDERSTANDING DISEASE RISK AND TREATMENT, AND WHAT HE SEES FOR A FUTURE WHERE GENOME SEQUENCING MAY BE A ROUTINE PART OF PATIENT CARE.
This month’s TMC Pulse cover features Dr. Denton A. Cooley. Growing up in a small town in Mississippi, I was aware of the legend of Dr. Cooley and the incredible work being done in the Texas Medical Center. His work came to life through the firsthand account provided to me by a local general surgeon who permitted me to follow him everywhere he went during my high school years, even allowing me to scrub on cases with him once I was a college-premed student.

Dr. Cooley performed Dr. McCraw’s coronary artery bypass operation in the early 1970s, and he mesmerized me with details of how he was one of twenty operations performed by Dr. Cooley and his team that day. Following his convalescence, Dr. Cooley permitted Dr. McCraw to go behind the scenes to watch the coordinated effort orchestrated by the Texas Heart Institute day in and day out. Learning that Dr. Cooley was the surgeon to the surgeons clearly inspired and motivated me to become a heart surgeon. I first met Dr. Cooley at the American Association of Thoracic Surgeons annual meeting in New Orleans in 1984 when I was a second year surgical resident. I naively just went up to this giant in American surgery and introduced myself and told him of my dream to be a heart surgeon. He was gracious and encouraged me to work hard to chase my goal.

In the years that followed, I got to know Dr. Cooley and was fortunate enough to be visiting the TMC on his 76th birthday. He had just performed a minimally invasive coronary artery bypass operation with the heart beating without the support of the heart lung machine. He told me that surgeons need to remain curious, to innovate and to learn new methods to improve the care of their patients.

Dr. Cooley developed a friendship with my mentor, Dr. Shumway, the Stanford heart surgeon who is recognized as the Father of Heart Transplantation. They were members of a senior cardiac surgeons travelling golf group and enjoyed many memorable rounds of golf together. I always enjoyed Dr. Cooley’s visits to Stanford and when we established the annual Shumway lecture, Dr. Cooley served as the inaugural speaker.

Dr. Cooley has performed more heart operations than any surgeon in history. It has been my great fortune to know and learn from him. We are all so blessed to have him as the pioneering, innovative spiritual leader of the Texas Medical Center and we all should be inspired to continue the work that has been Dr. Cooley’s life mission—improving the health of the people of Houston, Texas, our nation and the world.

Robert C. Robbins, M.D.
President and Chief Executive Officer,
Texas Medical Center

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A Home Away From Home

WITH A TOTAL OF 86 ROOMS THROUGHOUT THE TEXAS MEDICAL CENTER, RONALD McDoNNALD HOUSE HOUSTON OFFERS A WARM AND WELCOMING ENVIRONMENT TO FAMILIES OF CHILDREN FACING LIFE THREATENING CONDITIONS

BY ALEX ORLANDO

A T MD Anderson Children’s Cancer Hospital, the aroma of chocolate chip cookies wafts through the air as a volunteer prepares to make her rounds. At Texas Children’s Hospital, mothers and fathers find a moment of solace in the sanctuary of a private bedroom, resting their eyes for a few hours while harnessing the strength needed to support their child. At Children’s Memorial Hermann Hospital, parents regain a semblance of normalcy and control as they do laundry and cook dinner, bolstered by the solidarity of other families who share similar experiences. On Holcombe Blvd, the frenetic beeping of hospital monitoring equipment is replaced by the ringing of infectious laughter and the eager barks of the House’s resident labradoodle. At Ronald McDonald House Houston (RMHH), families with seriously ill children being treated in Texas Medical Center institutions find much more than warm beds and a roof over their heads—they’re enveloped in an atmosphere of care, compassion and support.

A Home Away From Home

Offering a nurturing environment to all families of children facing a potentially life threatening condition, including those in need of an organ transplant, major cardiac surgery or fighting cancer, RMHH operates a total of 86 rooms and provides support services in several locations throughout Houston. Spanning across the medical center from a freestanding, 50-bedroom House on Holcombe Boulevard to smaller facilities inside Texas Children’s Hospital, Children’s Memorial Hermann Hospital and MD Anderson Children’s Cancer Hospital, all of these programs loudly proclaim a home away from home in every detail from well-stocked bookshelves to ironing boards.

“We operate very much like a hotel in terms of the services that we provide, but the big difference is that this is a hotel with a big heart,” explained Mikki Donnelly, director of advancement for Ronald McDonald House Houston. “The gift of a room and a place to stay is one thing, but the gift of sharing your story and finding solidarity is something else entirely. Very seldom do the families who have stayed here talk about the accommodations themselves, but they all talk about the sense of community with other families and the feeling of support that they receive from volunteers who come in and just listen to what they have to say.”

Families who come to Ronald McDonald House Houston see facing the reality of every parent’s worst nightmare in the serious and often life-threatening illness of their child. In the wake of the trauma of their diagnosis, the prospect of finding a safe, affordable place to stay in an unfamiliar city, while dealing with a sick child, can make a stressful situation even more difficult. Coming from all walks of life and representing a full spectrum of cultural and economic backgrounds, these families journey on parallel paths—they all share a common bond through their children’s experiences.

“The Ronald McDonald House provides, clearly, a place to stay, but that is way down the list of important elements,” said Emily Crosswell, a member of the Ronald McDonald House Houston Board of Directors and an integral figure in RMHH’s development since its inception. “The families support each other, the staff and volunteers support the families, and the community comes into our House and is able not only...
all talk about the sense of community with other families and the feeling of support that they receive from weeks during the summer, the Holcombe House hosts developed with community partners—among them house to a putting green, a robust activity program children that include everything from an indoor tree contains two queen size beds and a private bathroom—both private bedrooms with an array of activities reminiscent of a cruise ship. In addition to both indoor and outdoor play areas for include Nepal, pediatric, or cardiovascular intensive care units. Consisting of 20 private rooms—available for other families to call home while their child receives treatment in the Children’s Hospital offers families a short-term place within the medical center. The House inside Texas that have been uprooted from their homes and are going through such stressful times in their lives.”

In 1978, spurred by Donald Fernbach, M.D., then head of the Hematology and Oncology Service at Texas Children’s Hospital, an assembly of committed parents of pediatric patients, McDonald's franchisees and supporting members of Houston's medical community began the initiative to build a Ronald McDonald House in Houston. Motivated by a collective desire to build a safe haven within the medical center, they worked tirelessly to bring their dream to fruition. Gaining traction thanks to the support of Bud Adams and the Houston Oilers and following in the footsteps of the Philadelphia Eagles and the Chicago Bears, who had also rallied behind the banner of Ronald McDonald Houses, Houston's NHL publicity machine kicked itself into gear to help raise awareness for the cause. With heightened support and visibility, fund-raising began in earnest. Before the end of 1981, a 21-bedroom Ronald McDonald House rose near the Astrodome at 1012 La Crotola Lane in Houston. By 1992, the facility was at capacity, and families had to be added to a waiting list, leading the RMHH Board to initiate a capital campaign to build a larger House.

“After 10 years at LaCrotola, we saw the need to not only expand, but to really grow and thrive, which would require a new site,” added Crockett. “The Texas Medical Center had this location—the George Myers Medical Center had this location—the new 50-bedroom site—next door to the Houston Hospice on Holcombe Medical Center had this location—the George Myers...”

A typical conversation at the Holcombe House will often be punctuated by a resounding, enthusiastic “Yes!”

“Mogie joined the team about five years ago—he pretty much run the house,” laughed Donnelly. “He really is what makes this house feel like a real home and he’s not a therapy dog—when we were choosing a dog that was intentional. Therapy dogs trained to just sit and let themselves be petted. We wanted a family dog that can run around and chase tennis balls. Moogie is a true house dog, but without anybody sneaking in, it provides a lot of therapy.”

Ronald McDonald House Houston has added locations to a handful of hospitals in recent years to address the needs of different patient populations within the medical center. The House inside Texas Children’s Hospital offers families a “one-room school” to call home while their child receives treatment in the neonatal, pediatric, or cardiovascular intensive care unit. Consisting of 20 private rooms—available for brief overnight stays or nap time—a large communal kitchen, laundry facility, living area and quiet rooms, the feeling of arriving home allows the stress of the medical center. “It's more than having a 1,000 foot space that serves as a waiting room, because we bring the feeling that exists all around RMHH into that space,” explained Bourne. “It’s that sensation of hope, that nurturing environment that's balanced by the support of our volunteers—you’re not going to get that in a hospital waiting room where people are too busy to sit down and ask how you or your child are doing.”

“The hospitals that we serve keep coming to us and asking us to expand our programs—we keep lot them in exchange for valuable real estate,” she added “It’s becoming clear that we’re starting to impact research—published data has started coming out about when children cope better and heal faster if their family is close to their children. It’s kind of like grandma’s house—a very warm, cozy environment where you can have chocolate chip cookies or just take a nap. We don’t want you to feel like you’re in the hospital, we want you to feel like you’re come home, for just a little bit.”

Four Family Rooms inside Texas Children’s Hospital offer families a comfortable place to rest while their children receive care. In 2013, as the newest addition to the RMHH network, a Family Room was added at MD Anderson Children’s Cancer Hospital. “It’s more than having a 1,000 foot space that serves as a waiting room, because we bring the feeling that exists all around RMHH into that space,” explained Bourne. “It’s that sensation of hope, that nurturing environment that's balanced by the support of our volunteers—you’re not going to get that in a hospital waiting room where people are too busy to sit down and ask how you or your child are doing.”

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— MKK Dornnelly
Director of Advancement at Ronald McDonald House Houston

(Credit: Ronald McDonald House Houston and Scott Dalton)
A new paradigm of inter-institutional collaboration continues to redefine the landscape of the Texas Medical Center. Houston Methodist and Texas A&M Health Science Center are partnering to bring even more innovative research and medical education to the state through new health professions degree programs. Beginning in 2015, medical students will begin clinical training and graduate research in Houston, with plans for that number to double by 2016. Houston Methodist doctors and scientists who participate in the program will receive Texas A&M faculty appointments and titles.

“The Texas A&M and Houston Methodist joint degree programs combine the strengths of our institutions to train the next generation of physician leaders,” said Tim Boone, M.D., Ph.D., co-director of the Houston Methodist Institute for Academic Medicine (IAM) and the new regional vice-dean for the Texas A&M College of Medicine. “Our programs will mentor young physicians to nurture their ideas for new cures and treatments, and provide them with the skills they need to turn these ideas into realities that improve health for patients everywhere.”

The medical degree program will begin with two years of basic medical science and pre-clinical training at Texas A&M Health Science Center College of Medicine in Bryan, and continue with the third year rotation in the world.”

Falling in line with the grand scope and ambitious nature of this partnership, it represents another step forward in Houston’s expansion efforts in the Texas Medical Center. This past January, the announcement of a two-year ground lease in the Texas Medical Center for future construction of a multipurpose research and education building adjacent to the Albert B. Alkek Building, which currently houses the Texas A&M Institute for Biosciences and Technology, established a backdrop of growth which will continue to propel the fledgling institution forward.

Showcasing the alignment in philosophy and ambition between the two institutions, Boone feels a commitment to helping Texas A&M Health Science Center actualize those goals. “Symbolically, this is about reaching out to Texas A&M and saying, ‘You’ve been here for a while and we’d like to lock arms with you and bring you into the medical center in a larger way,’” he said. “It just makes sense to expand upon that relationship. With the plans for another building on their existing campus footprint, we think that Texas A&M Health Science Center needs to be in the mix—they’re committed to achieving that, and we’re committed to being a good partner for them to see that happen.”

“This really is a perfect collaboration,” concluded Giroir. “Although Texas A&M Health Science Center is relatively young, we’re one of the most rapidly emerging research institutions in the country. Houston Methodist is consistently rated as one of the top hospital systems in Texas and the nation. We complement each other, and there’s tremendous synergy between clinical expertise, educational processes and translational excellence. When you bring that together, special things are going to happen.”

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The Battle Within: America’s Veterans Work to Heal the Invisible Wounds of War

By Alex Orlando

As service members, we’re programmed to accept everything that’s given to us and not really ask for help. Then, when we needed it,” said Staff Sgt. Jamie Meza, a National Guardsman from 2003 to 2007, “I actually went to the VA to talk to someone—volunteer coordinator from the Veteran Support Organization in the country. For Bryan Seymour, who served in the Marine Corps from 2003 to 2007, that experie...
A | Where were the epicenters of discovery at that time?
A | The early genomics groups were widely distributed at that time. There were many groups that were involved in the genesis of the human genome project. There was a period of discussion in the late 1980s and a realization internationally that this might be a good thing—even though we didn’t really quite know what the genome was going to be. It was similar to the Mars mission now. For a while we talked about the ‘moonshot of biology,’ but really because there are so many challenges, it is much more like the Mars journey.

That was the mood for the early thoughts of the human genome project. Not even having a clue about what the good way to get there was. So there were probably about 20 groups that were seriously engaged in the project internationally. And of course, there were model-organism groups that were also tinkered because they were simpler problems. So there was a period then, to use a metaphor, when things began to ferment. That was before the project really hit the ground in the very beginning of the 1990s. It began with trying to impress biology, a long way from being able to sequence the first human genome. The methods were really very crude by today’s standards. Then there was a collapsing down of the number of groups that were involved. This reduction in the number of participants was partly because of the focus of the funding agencies. But also there was a realization by the participants that completing a human genome was a full-time, long-term commitment. It wasn’t something one could do part time! You really had to want to do part time! You really had to want to do that.

really kicked the public groups into action. Because nothing else was as simple as the model organisms. There was a realization internationally that this might be a good thing. So there were over a dozen groups that were involved in the project internationally. And of course, there were model-organism groups that were also tinkered because they were simpler problems. So there was a period then, to use a metaphor, when things began to ferment. That was before the project really hit the ground in the very beginning of the 1990s. It began with trying to impress biology, a long way from being able to sequence the first human genome. The methods were really very crude by today’s standards.

Then there was a collapsing down of the number of groups that were involved. This reduction in the number of participants was partly because of the focus of the funding agencies. But also there was a realization by the participants that completing a human genome was a full-time, long-term commitment. It wasn’t something one could do part time! You really had to want to do that. So the struggle to get the methods to high enough efficiency continued on through the mid-90s, then there was just about the moment that we saw the light at the end of the tunnel; a fierce competition with a private group emerged. That really kicked the public groups into action. Because all those involved in the human genome community were committed to the idea that these data should be freely available to all researchers. The idea there was that we didn’t want a private group to sequence the genome and exercise DNA patents—like a ‘land grab.’ We wanted to stimulate research, not hide information away and lock it up into early patents. So we fought that battle and won. So that all the data got out there into the public domain by the early 2000s. That was the whole 15-year project from 1990 to 2005. It was originally supposed to be a 15-year project with a $8 billion dollar budget. We did it a little faster and cheaper.

Q | I’ve heard people describe early genome sequencing as being like a New York City phonebook. There is a lot of information in there, and it’s hard to know what to do with it all.
A | Great analogy—except at that time we didn’t see how many telephones are in New York or how to organize them! That would be the better analogy. So it wasn’t just putting existing phonebooks and rearranging them in a pile. It was really figuring out what a phonebook might look like. There are very basic principles of biological research that were forged during that period. Those are some of the unaided contributions of the human genome project, and more subtle transitions that occurred during that period, which people really are feeling the ramifications of now.

So what are those things? There is digitalization. Biology was completely an analog science up until then. That’s really critical because with the digitization you have a precision and an operability that you don’t have otherwise. Comprehensiveness was emphasized—the idea that you don’t just nibble at the side of a problem. Instead you slice it, you dissect it fully and then completely describe it. That’s really a fundamental principle that’s practiced widely now.

Free and open data release was also a product of the project. Historically, scientists are very secretive about their data, right up until they publish it. We changed that principle. We developed a model where data can go straight from a machine, into the public view. That’s a huge contribution and one that is really changing the way in which data can be used and shared.

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Q | With this technology coming faster and being less expensive than it has been in the past, what should we envision in the next five to ten years relative to genomic data?
A | I think it depends on how far you want to project, but in the few to ten year time frame, it’s almost certain that genome sequencing will be a routine part of your medical workup. That is, unless you have some personal objection. But from the medical point of view, there’s no rational reason to object. So because this is inexpensive and comprehensive, there are issues that can be discovered within that data that may be critical
A | Q | A |

Q | How much of what you’re doing is starting to affect decisions on the therapeutic side? A | Well if you’re asking about what we can do today, it really does depend on your definition of intervention. Is it growing, but we have some way to go. For example, we can think today if you are a cancer patient and you have your tumor genome sequenced, how often would that data impact your care? That’s an important question in genetics and we are making good progress.

One of the things we discovered in the last five years is how much natural variation there is between each of us. We have known for a long time that if you sequence any new person, there would be about three million differences between them and the reference database. But we’ve learned more recently that even in the gene regions—one the percent that really matters—there are hundreds of individual DNA changes that will hardly ever be seen in another human being. So we’re very different genetically from each other. Now that’s thinking in just terms of populations, genetics and the structure of life. But it is also a big practical problem when you try to figure out these genetic processes.

For example we can examine different families with multiple siblings, some of whom have heart disorders, to figure out what caused heart disease when you get from some of these new machines with the standard methods analyzation you need to be improved by hundreds of thousands of times. Not the same.

Next there is the general question of data analysis. Even now we have a lot of data, we get back a decade, DNA sequencing was an art form. Now even in terms of computing and ‘play and process’ the problem is still challenging. These are parts of the genome that are very hard to understand and physically difficult to analyze. And there’s actually enough of those hard-to-describable regions that cause disease, so the challenge is even harder than it is larger. So we can get from some of these new machines with the standard methods analyzation when we need to work with much more data.

In a big change in the ability to scale these activities. Historically, research and clinical care has two activities and the research and clinical care has become a research subject. If you asked about a heart disease, you really can learn something from just that data. So if we want to solve these genetic problems, we need to apply the genetics tools we have developed over the years.

We can begin to set that new standard of care.

Q | Tell me about your vision for a TMC Genomics Institute. A | I think that the unique nature of this opportunity is a reflection of the talents of the TMC. When we talked about the mission of enhancing discovery to drive better health care, then we’re talking about programs that require scale and integration of very different kinds of data and effort. In a sense, this new opportunity is a kind of refocus from the specialization that we see in the current institutional structures. We really want to integrate the range of data that come from newborns to adults who have cancer and more. That’s the whole range. Right now, if you’re in one category or the other, you basically go to different institutions. This is a chance to integrate and keep the data and really synergize the information to create new discoveries. These new discoveries will improve care.

Q | Do you see that anywhere in the world today? A | No I think that is what many of us here in Chicago and so excited everywhere. When you look out the window of our buildings, you see the next, rich opportunities here. I don’t think there is anything quite the TMC elsewhere on the planet. Certainly not from what I have seen. All of these new achievements in achieving this kind of integration and comprehensive amalgamations of data.

Q | You were recently awarded the Companion of the Order of Australia, a prestigious honor issued by the Australian government. What did it mean to you? A | It’s very nice for sure. It’s a reminder of the special opportunities that you have—be it the part of the human genome project, for example. But in this case, for the part of the process, is a reminder. You’re young in your career, but have already achieved so much. What do you think of this?

Q | Tell us about some of the mentors who have impacted your career. A | Dr. Michael Daley. I only had a small number of interactions with him, and he was a nononsense person. He emphasized on excellence and hard work and that you really should do something, do it totally! That very basic concept is very powerful and should influence any investigator or clinician. So those two mentors were pivotal.

Q | So for families in the future, when sequencing becomes routine, how can we begin to set that new standard of care? A | It’s all about robust data and information. I think that the unique nature of this opportunity is a reflection of the talents of the TMC. When we talked about the mission of enhancing discovery to drive better health care, then we’re talking about programs that require scale and integration of very different kinds of data and effort. In a sense, this new opportunity is a kind of refocus from the specialization that we see in the current institutional structures. We really want to integrate the range of data that come from newborns to adults who have cancer and more. That’s the whole range. Right now, if you’re in one category or the other, you basically go to different institutions. This is a chance to integrate and keep the data and really synergize the information to create new discoveries. These new discoveries will improve care.

Q | Do you see that anywhere in the world today? A | No | I think that is what many of us here in Chicago and so excited everywhere. When you look out the window of our buildings, you see the next, rich opportunities here. I don’t think there is anything quite the TMC elsewhere on the planet. Certainly not from what I have seen. All of these new achievements in achieving this kind of integration and comprehensive amalgamations of data.

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The Cooley Legacy

YEARS BEFORE HE IMPLANTED THE FIRST ARTIFICIAL HEART IN FOURTY-SEVEN-YEAR-OLD HASKELL KARP, DENTON A. COOLEY, M.D., LAID THE GROUNDWORK FOR A HALF-CENTURY OF RESEARCH AND EDUCATION IN CARDIOVASCULAR SURGERY.

BY AMANDA D. STEIN

His name is almost synonymous with hearts, and his reputation as a pioneer of cardiovascular surgery is well-deserved. The legacy of Denton A. Cooley, M.D., reaches far beyond the walls of the Texas Heart Institute (THI). It is alive in the patients around the world whose hearts are still beating today because of Cooley and his team.

At 94 years old, Cooley continues to work nine to five, four days a week. The way he sees it, keeping an active mind is the best way for someone his age to stay sharp. A former University of Texas varsity basketball player, Cooley graduated with highest honors from UT in 1941. He still carries a scar on his chest in the shape of a UT symbol, earned during a junior-year social club initiation ceremony by The Cowboys involving a hot branding iron and tremendous UT pride.

After two years at The University of Texas Medical Branch at Galveston, he transferred to Johns Hopkins University School of Medicine, graduating Alpha Omega Alpha in 1944. As an intern, he assisted Alfred Blalock, M.D., on the first “Blue Baby” operation. Cooley earned his medical degree from Johns Hopkins, and served as a Senior Registrar in London with Russell Brock, a prominent heart surgeon. He went on to serve as a faculty member at what is today Baylor College of Medicine alongside the late Michael E. DeBakey, M.D., then the chairman of the Baylor department of surgery. The 1950s and 60s ushered in exciting advancements in cardiovascular surgery—from the introduction of open-heart surgery, to transplantation, to mechanical assist devices—and Houston’s renowned surgeons were at the center of it.

“I did the first successful heart transplant in the United States, and I was so impressed with the fact that you could actually replace this pump for the whole circulatory system,” said Cooley. “The heart is one of the simplest organs in the body, not nearly as complex as the liver or the kidneys. The heart has only one function, which is to pump.”

The Texas Medical Center was growing at that time, and Cooley saw an opportunity to create a heart institute in a clinical partnership with what is today CHI St. Luke’s Health–Baylor St. Luke’s Medical Center.

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

Nearly seven years after the founding of the Institute, Cooley notably became the first in the world to implant a total artificial heart (TAH) in a human. The operation took place on April 4, 1969, when a device designed by Domingo Liotta, M.D., a surgical fellow at Baylor College of Medicine, was implanted as a bridge to transplant in forty-seven-year-old Haskell Karp.

Karp survived the initial TAH implantation, and subsequent heart transplant.

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But Cooley—JAmeS t. willerSon, m.d.

“From a personal standpoint, I have always believed that a man who is going to get ahead has to have a balanced life. I’ve tried, for most of my life, to give my first attention to my patients and to my practice, but also to my family. I have a family of women, five daughters and my wife. An old friend of mine just invited me to a birthday luncheon for his 100th birthday, and I told him I was sort of a rule model for me. I’ve always thought life was like a marathon,” he added. “You want to save some effort for the last hundred yards and have a little kick at the finish. And that’s what I would like to do.”

— DENTON A. COOLEY, M.D.

President Emeritus of the Texas Heart Institute

Cohn, M.D., co-director of the Cullen Cardiovascular Research Laboratory at THI, Frazier remains active in the development of new heart assist and replacement devices.

The team also recently welcomed Danielle Timms, Ph.D., a biomedical engineer and native Australian who envisioned a heart replacement device that would be small enough for use in children, but powerful enough to support an active adult. He first began development of the BiVACOR total artificial heart over ten years ago as a Ph.D. candidate at Queensland University of Technology and The Prince Charles Hospital in Australia. After Timms met Cohn, Frazier and Cooley in 2012, the team began discussing plans to bring his heart to Houston. Today they continue testing on the device, hoping that the magnetic rotating disc will reduce the likelihood of device failure due to mechanical wear over time.

Beyond mechanical devices, the THI team is also researching ways to help repair damaged hearts with the use of stem cells. Doris Taylor, Ph.D., THI director of regenerative medicine research, is exploring ways in which a patient’s heart could be repaired without the long-term use of a device. Taylor and her team have used a pig heart to demonstrate how healthy adult stem cells could potentially help repair or rebuild damaged organs.

“More women die of heart and vascular disease than all cancers combined. There are 33,000 children born each year with heart and vascular disease in the United States. And one out of 25 men worldwide will have heart and vascular disease during their lives,” explained Willerson. “It’s really an important effort, and we have to help people realize that really the greatest threat to their health and their lives—no matter what their gender or age—is heart or vascular disease. And that effort has to continue.”

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Milestones in Heart History

(Contributed by the Texas Heart Institute)
Pediatric Sim Training Delivers Results

With monitors beeping and the sound of a baby crying, trainees work through high-risk scenarios with the help of the Texas Children’s Simulation Center

**By Amanda Stein**

The immersion aspect of simulation training is just so powerful. You may forget what you heard in lecture, but you will never forget the mistake you made during a mock code. As we say, a mistake made in simulation is not that mistake will be made in real-life.

— MARTIN LORIN, M.D.
Senior Teaching Faculty at Texas Children’s Simulation Center

The high fidelity, or high tech mannequins that we use in simulations are very realistic. They do many things a real baby would do, providing an opportunity for traditionally health care providers, and now laypersons to practice management of life threatening situations.

— JENNIFER ARNOLD, M.D.
Medical Director of the Texas Children’s Simulation Center

The Texas Children’s Simulation Center released as many as fifty patients a year on ventilators, and hospital educators hope that this patient population could help decrease mortality and readmission rates. Nationally, tracheostomy-related airway emergencies account for three percent of deaths in hospitals. If we discover important information that would otherwise have been missed. And when it comes to talking about mistakes, we can create an environment where it is safe for people to talk about and learn from their mistakes.

For instance, a family taking home an infant with a tracheostomy and ventilator, the reality of all that could go wrong can be “horrifying,” says Amanda Spears, mom to fifteen-month-old Christian Zachary Spears, a patient of Texas Children’s Hospital. But the day when a complication with his tracheostomy tube caused her young son to stop breathing, Amanda knew exactly how to provide life-saving care—using a device known as a Bag Valve Mask. “The immersion aspect of simulation training is just so powerful. You may forget what you heard in lecture, but you will never forget the mistake you made during a mock code,” said Martin Lorin, M.D., professor of pediatrics at Baylor College of Medicine and senior teaching faculty member with Texas Children’s Simulation Center. “As we say, a mistake made in simulation is a mistake that will not be made in real life.

The family training pilot program, which ended in July and is currently becoming a part of the discharge education process for these patients and their families, is just one of the programs offered to deliver more personified, hands-on training for families, physicians, and local first responders. The goal is to improve communication and provide a safe, controlled environment in which teams and individuals can prepare to handle high risk medical situations.

In addition to the neonatal and pediatric training, the simulation center also trains with a birthing simulator. They practice performing a complicated delivery, stabilizing mom and baby, and then transferring the baby to the team in the neonatal intensive care unit. It’s an opportunity to bring together all of the different individuals and teams that may play a role in the care of a single patient.

“Experience alone does not teach us everything we need to know about how to manage critical events and avoid errors,” said Kelly Wallin, assistant director of Texas Children’s Simulation Center. “By examining what happened—or did not happen—afterward with each team member in the room, we are sure to learn important information that would otherwise have been missed. And when it comes to talking about mistakes, we can create an environment where it is safe for people to talk about and learn from their mistakes.”

The team trains to run trainees through the most realistic scenarios possible, in hopes of preparing them to calmly and confidently care for a patient in a situation they might one day actually encounter. One of their training scenarios actually played out in a real-life scenario earlier this year when a baby was delivered in the parking lane outside of Texas Children’s. Lobby staff and medical personnel responded quickly to care for mom and baby.

“We practiced that scenario,” said Wallin. “We had done that in simulation before. I had to believe that lobby staff was so confident in their abilities because we ran them through that scenario so many times.”

Pediatric Sim Training Delivers Results

Simulation training allows parents and physicians to practice life-saving techniques using high-fidelity mannequins. (Credit: Texas Children’s Hospital)
Tell us about your formative years.

I was born in San Antonio and raised in San Antonio and South Texas. In my early years, I spent a lot of time with my family in South Texas. I have great memories of my parents encouraging me on their farms and hunting with them and my family. During the summer session, I was interested in science. Back then there was no STEM program to really get you interested in science or engineering but I always liked taking things apart and putting them back together. We worked on everything that we had at home. We didn’t have people fix things. If something broke we’d fix it. One of my grandfather’s was a carpenter, and so I learned about building something that way. My father always worked on his own cars, so I learned to repair cars. I guess what really sold me into engineering was seeing a presentation by Texas A&M University at a high school career fair. That presentation clearly presented what engineering was all about and I liked what I saw. So as some people might say—although I don’t like the phrase—I grew up on the right side of the tracks in San Antonio and went to a junior high school where I was right on the diving line. I did not know this, but it was explained to me when I reached high school. I was in a poorer junior high school by one street, but I was in a more affluent high school by one street. These were some 2,400 students in my class in high school, and very few of us came from my junior high school. We all had to push hard to get into accelerated classes. My parents were very strong supporters of my education, and I was very supportive of my sister and my mother. We would say “You can do anything you want to.” Once I was accepted into the Morehead Scholarship, the teachers were outstanding. The quality of the teachers and the encouragement from them was really great. When I was 16, I decided to go to MIT as a department major after school. I had one of the best bosses you could have. As a new employee, he challenged you, but he trusted you. In other words, he would give you responsibilities, as much so as you could take. He never screamed at you, never corrected you. He was always encouraging. I only worked with him for two years before he moved, but he gave me a special education on management and leadership during those years.

Tell me about your job today.

I always try to remember that I have an internal job and an external job. An internal job is leading and teaching my staff. In personalty trait studies, I’ve always been told that I wasn’t going to be an engineer I was going to be a teacher. It’s something I really enjoy, so I take that on as a very important part of my job. Outside, I work a lot more on planning projects than the execution part. If you don’t plan a project right, it will never end up correct. I try to develop strong relationships with a few very important classes of growing areas such as Downtown, the Texas Medical Center, Opuntia and, more recently, Midtown. The first three I probably have worked in since the early 80s.

Tell me about the Texas Medical Center and what you do there.

When you drive through the campus and see the bustle of people, this is often the most public work we instilled in students as you worked with them?

A: I do, and I remember instances more than anything else. There was an idea that people that made it happen. We did planning and we executed, but there were people who made the tough decision in order to happen. Where do you spend money? What’s the best use of the money for the Texas Medical Center and each of the individual institutions? The people on the boards and the people in charge of the institutions are really inspiring. I think one of the things that is very clear is the amount the area has changed over the years. You can see that in some of the older aerial photographs you have of these facilities. When I came to Houston in the 70s, it was buildings surrounded by a sea of parking lots. To see it transformed, in turning parking lots into research centers, hospitals and clinics that are helping prevent diseases, is very inspiring to me and all of my employees that work on the projects. One thing that has really been great in the last 15-20 years is the focus on creating special places, retreats, for hospitals and the Texas Medical Center. There are parking and on a surface parking lot, walk along asphalt for 200 yards to a facility for work. Or walk or a hospital for exercise and walk across an asphalt dining facility. I met a lot of good friends there.

Tell me about what makes your work in the medical center area different from other areas of the city?

It’s all of those areas. I’ve worked with the same group of people for more than 20 years. There is a list of similarities, but the Texas Medical Center—in terms of the work we do and the success we’ve seen—is one that has much more mission critical. For instance, if there is a water line breaks and it’s two o’clock in the morning, we have to do what we can to fix or stop the problems that it’s causing. If there’s a fire in a garage, you have to be able to get out real quick. One of the things we’ve really done, has been to have a more in-depth knowledge of what we’re doing. It plays into the mission critical nature. I do, and what I remember sometimes more than anything is the people that made it happen.

Tell us about your formative years.

A: I see it as a place for hope for people, and I think that’s what needs to be recognized more. Working here, you see the great buildings and I know what’s inside and how much work it took from the leaders that made it all happen. But if we look from the outside world, of the patients and visitors, I believe they see something different. I’ve had many family members, coworkers and friends of mine. I have four being trained at MD Anderson right now. They all see it as hope. To me that’s an image that we need to see as we’re doing our projects.

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Tell us about your formative years.

A: I think one thing that’s really told the Texas Medical Center apart is the basic values that exist here. Everything you do here, everything you do in successful companies, has to be guided by your values. We’ve seen the Texas Medical Center as a critical part of our community. Walter Moore Sr. always told us “Don’t forget your community. If you have a strong community, everybody is going to be okay.” He encouraged innovation, which is something that is always inspiring at the Texas Medical Center. Through research and development work, we’ve seen a lot of things that are high risk. We were always good innovators. I think those core values have helped strengthen our relationship with the Texas Medical Center. He used to always say “Don’t be afraid to innovate. If you think something is going to work, then do it.” At our company, and I know at the Texas Medical Center, innovation is not optional. The Texas Medical Center thrives on having some of the greatest talent in the world. It’s not much different for our business. When we look to hire somebody, we’re looking for someone who has expertise in their desire to get better within their area, and somebody that can perform and actually make something happen. Yes. I was told in my staff to the medical center to meet a researcher or a doctor who just cured a disease. I’m reminded every day of what a great honor it is to just be contributing to this. It’s so rewarding. It makes you want to come to work every day and work late.

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Baylor Joins NIH Undiagnosed Diseases Network
Clinicians and researchers at Baylor join forces with other top medical institutions to address hard-to-solve medical cases

By Zoe Quezada

Professor and Interim Chair of Molecular and Human Genetics, Brendan Lee, M.D., Ph.D., will lead a team of clinicians and researchers who will bring their resources and expertise to the Undiagnosed Diseases Network. (Credit: Baylor College of Medicine)

Baylor joins the National Institutes of Health’s Undiagnosed Diseases Network—a collaboration with other leading institutions to find answers for patients with illnesses that have previously been unexplained.

The Undiagnosed Diseases Network (UDN) is a research program created by the National Institute of General Medical Sciences (NIGMS) to identify the root causes of illnesses in patients whose diagnoses remain unknown despite thorough and extensive medical evaluation.

By analyzing and comparing the biological and genomic data from individual patients across the country, the Undiagnosed Diseases Network aims to help doctors and researchers discover the underlying causes of these illnesses—ultimately improving patient care and advancing the understanding of these conditions.

Baylor College of Medicine is one of the top collaborators in this initiative. Joining forces with other top medical institutions, Baylor will work with the NIH to address hard-to-solve medical cases.

Baylor’s participation in the Undiagnosed Diseases Network is a testament to its commitment to the health and well-being of its patients and to the pursuit of scientific understanding and discovery.

This collaboration with other leading institutions allows Baylor to leverage its wealth of expertise and resources in genetics and genomics to identify potential solutions for patients with undiagnosed diseases.

While the Undiagnosed Diseases Network is a relatively new initiative, its potential to make a significant impact on the healthcare landscape is enormous. By pooling resources from across the country, the network is uniquely positioned to make strides in the diagnosis and treatment of rare and challenging conditions.

Baylor College of Medicine is well-equipped to contribute to this effort. With a strong foundation in molecular and human genetics, the College has a history of groundbreaking research and innovation.

For example, the Skeletal Dysplasia Clinic, led by Dr. Juan Martinez, and the Undiagnosed Disease Core Lab, directed by Dr. Juan Martinez, are centers of expertise in the diagnosis and treatment of skeletal dysplasias and other rare genetic disorders.

By joining forces with other leading institutions, Baylor is positioned to expand its reach and impact, providing a more comprehensive approach to the care of patients with undiagnosed diseases.

This collaboration is particularly timely and relevant, given the increasing prevalence of genetic and rare diseases in the population. As our understanding of these conditions grows, so too does the need for innovative and integrated approaches to care.

Baylor College of Medicine is proud to be part of this important initiative and is poised to make significant contributions to the advancement of medicine and the health of our patients.
Building a Brighter Future
28th Annual Harris County Precinct One Street Olympics’ Summer Games

By Alex Olsando

Over the past 28 years, we’ve touched the lives of over 100,000 kids. If we made a difference in the life of one of them, then it’s been successful. — Yvette Chargois, Chair of the Street Olympics Board of Directors

A lot of children who come from low-income families don’t really have the opportunities to participate in anything like this—for them it’s a new experience,” said Christina Hartman, a naturalist for Harris County Precinct One who works with Discovery Camp, a one-day summer program designed to teach young people about their relationship with nature. “They might have never been hiking before or had the opportunity to visit a park setting outside of the city limits. We just want them to have fun in nature and value that experience, hopefully fostering a respect for the things around them. We hope that they’ll want to protect the environment.”

After five hours of competition, entertainment, free lunch and the agony of the Bright Futures Fast, the Olympic flame is extinguished, closing out the 28th year of the games. Tired but happy athletes, many of them wearing their medals, make an organized exit to go home to celebrate their day. “Today is all about repurposing our connections, from the involvement of the Texas Medical Center to our partnership with NASA,” concluded Lee. “That’s what this simple event accomplishes, as we try and light a spark or plant a seed, in anything from music to science, to initiate a conversation and generate ideas that could lead young people to become anything from a pediatrician to a musician. Even if that spark of an idea doesn’t manifest itself for a year to ten years, if we do that and that alone then this mission will have been successful.”

C

overed by the triumphant sounds of high school marching bands, hundreds of children from community youth agencies throughout Harris County proudly pace around the perimeter of NRG Arena. Carrying homemade team banners emblazoned with the names of their organizations, the finalists are flanked by mascots and sponsors as they participate in a ceremony with grandeur and spectacle reminiscent of the international Olympics. As the torch ignites the Olympic Flame, the all-too-familiar words from El Franco Lee, Harris County Precinct One Commissioner, echo across the stadium at the end of his opening address: “Let the games begin!”

On August 8th, about 4,300 boys and girls ages six to 15 competed in 12 events, from judeo to softball-pace accuracy, at the culmination of the 28th Annual Harris County Precinct One Street Olympics Summer Games. Three hundred gold, silver and bronze medals were awarded in each sport and in each age division. The young athletes represent the best of approximately 3,500 participants who trained and competed for eight weeks at participating youth organizations. While the event will conclude this year’s Summer Games, other Street Olympics’ components will continue throughout the year, including the Harris County Aquatics Program, Traveling Naturalist Program, and the Northeast Adolescent Program.

“The Street Olympics was not something that was contrived,” reflected Lee, who founded the Street Olympics in 1986, cultivating a well-rounded community based youth group, such as the FHA and City of Houston Parks & Recreation Department, in June of each year. Since its inception, the Street Olympics has grown from a summer-only recreational program to include four major components that address the social, service, health, education and vocational needs of Harris County youth. Starting with a roster of little more than 200 participants, the program involved upwards of 12,000 youth and young adults this past year. “Over the past 28 years, we’ve touched the lives of over 100,000 kids,” said Yvette Chargois, chair of the Street Olympics Board of Directors. “If we made a difference in the life of one of them, then it’s been successful. What we try to do is just show them some fun games and fun things to do, but also try and educate and let them know that these are many resources available for them.”

Providing a cross section of Lee’s comprehensive efforts to address the needs of young people throughout Harris County, the Bright Futures Fair acted as a companion event to the athletic competition. It was held throughout the day at the other end of NRG Arena. The Bright Futures Fair consisted of 50 exhibitors who strove to keep the athletes busy between their events while exposing them to the wealth of opportunities available in Harris County and beyond. “The Bright Futures Fair exposes kids to what’s happening in our community,” said James G. Wooten, Planetarium Astronomer at the Houston Museum of Natural Science (HMNS). “A lot of kids, especially those in the inner-city, aren’t sure of what’s available or what’s happening around them—the cycle often gets repeated where underserved kids get stuck in a rut because they’re not aware of the options out there. This exposes them to a sampling of everything and everyone around them, and shows them what they’re capable of.”

Walking amidst the controlled, chaotic energy of the Bright Futures Fair, children could be found entranced by the mysteries of the universe under the Discovery Dome, HMNS’s portable, full-dome theater; descending into the depths of three different ecosystems at Discovery Camp’s exhibit, an extension of the Street Olympics’ Traveling Naturalist Program; or learning about the lush variety of herbs, plants and vegetables present at the Harris County Horticulture Department booth.

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The potential to learn from our mistakes and improve upon them is limitless—it’s a defining characteristic of being human. In health care, a field where medical errors claim up to 98,000 lives each year, according to a 1999 report from the Institute of Medicine, the necessity of learning from those mistakes requires transparency, communication, and courage.

When a medical error occurs, a patient is typically informed of the mistake, but he or she is frequently not involved in the follow-up investigation. New research led by a faculty at The University of Texas Health Science Center at Houston (UTHealth) Medical School suggests that clinicians may be able to enhance patient care by better utilizing the input of their patients. Their findings appeared in the January issue of the peer-reviewed journal, Health Affairs.

By Alex Orlando

“We’ve learned that a health care organization which does not ask patients what they know about the causes of the error that harmed them has unfortunately decided up front to have an incomplete picture of what happened and why,” reflected Eric Thomas, M.D., MPH, the study’s senior author and professor of medicine at the UTHealth Medical School. “This limits the organizations’ ability to learn and improve.”

Thomas and his colleagues interviewed 180 people with firsthand medical error experience during the first phase of his study. Nine were patients or the family members of patients impacted by an adverse event. In addition to recounting their personal experiences, patients and their families shared their thoughts on how they would like to see follow-up inquiries handled. The remainder of those interviewed were clinicians or administrators at hospitals owned or affiliated with The University of Texas System, who reported that patients and their families were typically not included in post-event analysis.

Alicia Cole, a patient safety consultant who was unwittingly thrust into the hospital setting fighting for her life. She had contracted a severe, tissue eating hospital-acquired infection, which resulted in a below-knee surgery, five more operations and nearly cost Cole her leg as well as her life. Since her recovery, she has gone back to school and received a Graduate Certificate in Health Care Management and Leadership from the University of California, Los Angeles in order to better collaborate with administrators and policy makers.

“We need to begin to involve patients in every step of the disclosure of medical errors, from investigations to surveys given as soon as they leave the hospital,” she added. “Rather than be afraid of patient input, it’s about embracing it.”

While many health care institutions aspire to communicate with patients and families after an adverse event, investigating what happened is a parallel, separate process known as the event analysis. One way for hospitals to involve patients in patient safety efforts is to include them in the event analysis, allowing them to offer their unique perspective and a privileged vantage point. “There are so many benefits to involving patients. You’re going right to the source,” said Cole. “Patients are experiencing a health care facility live/?, and they’re not experiencing it in silos. A patient has experienced every department, from housekeeping to coordination of care. They can give you a 360-degree view of your facility, as opposed to a singular, administrative perspective that arises when health care leadership is talking to one department or a time.”

Historically, involving patients who have been injured as the result of a medical error hasn’t been a standard procedure. The possible legal risks have made health care providers, as well as clinicians, concerned about potential litigation. In addition, staff members might feel inhibited in the presence of the patient, making it more difficult to disclose important information. Timing is a delicate factor, balancing the desire for patient input with sensitivity towards their emotional distress.

The next step in the process, according to Thomas, is to try and address the barriers to engaging patients in the analyses and learning process after their own event. “To do that, it takes a very strong degree of institutional commitment, and even a little bit of courage,” he said. “It’s essential that top leadership, as well as clinicians and quality improvement and risk management departments, are supportive, paving the way to provide more education and implement change.”

Patients as Partners

Researchers recommend larger role for patients in medical error investigations

By Alex Orlando

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— Alicia Cole

Patient Safety Consultant

Embracing the potential for partnership, Eric Thomas, M.D., MPH, professor of medicine at the UTHealth Medical School, and Alicia Cole, a patient safety consultant, stand together in trusting partnerships.
Looking Up
SINCE 2012, MORE THAN 75,000 VISITORS FROM AROUND THE WORLD HAVE COME TO EXPERIENCE THE TWILIGHT EPIPHANY

By Zoe Quezada

T urneR’s work is groundbreaking. Anyone who has experienced one of his installations understands that his work is moving in a way that art should be. "You can see a sense of wonder in people’s eyes," said Stein. "They are mesmerized by it and they are moved by it."

T urneR’s work is designed to seat up to 120 people. The optimal viewing time occurs each day during sunrise and sunset when carefully constructed light performances fill the space with vibrant colors in accordance with the movement of the sun.

"When people come and visit the skyspace for the first time and walk out after they’ve experienced a light performance, they have this sort of euphoric experience," said Stein. "Anyone who has experienced one of his installations understands that his work is moving in a way that art should be."

From 2012, more than 75,000 visitors from around the world have come to experience the twilight epiphany skyspace changes colors as part of an elaborate light sequence designed by artist James Turrell.

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DEAN B. ANDROPOULOS, M.D., has been named anesthesiologist-in-chief at Texas Children’s Hospital. Andropoulos, who is also a professor of pediatrics in the section of anesthesiology at Baylor College of Medicine, leads a department of more than 60 fellowship-trained pediatric anesthesiologists who perform more than 35,000 anesthetics annually. Author of more than 50 peer-reviewed articles, 10 textbook chapters, and two textbooks, Andropoulos serves in various leadership roles. He is the founding director and first president of the Congenital Cardiac Anesthesia Society and the leader of the Pediatric Anesthesia Leadership Council Task Force on Advanced Pediatric Anesthesia Fellowship Training.

C. EDWARD COFFEY, M.D., a neuro-psychiatrist and health care executive, has been named president and CEO of The Menninger Clinic, one of the nation’s leading psychiatric hospitals, effective September 29. Coffey will have a faculty appointment at Baylor College of Medicine in the Menninger Department of Psychiatry and Behavioral Sciences and the Department of Neurology. A proven leader and collaborator, Coffey was most recently vice president of the Henry Ford Health System in Denver and concurrently served as CEO of Henry Ford Behavioral Health. Services and chair of psychiatry for the Henry Ford Medical Group.

SUSAN TOTOROLEO EMERY, PH.D., has been awarded the Douglas B. Kirby Award for Adolescent Research. Emery is a professor of Health Promotion and Behavioral Sciences and Epidemiology at The University of Texas Health Science Center at Houston School of Public Health. She is also director of the Center for Health Promotion and Prevention Research. Emery has more than 20 years of experience conducting research on risk and protective behaviors regarding adolescent physical and mental health.

PHILLIP ORLANDER, M.D., director of the Division of Electromyology, Diabetes and Metabolism at The University of Texas Health Science Center at Houston (UTHSC), has been named the 2014 Physician of the Year by the Houston Chapter of the American Diabetes Association. The presentation was made at the chapter’s 45th Wine and Roses Auction and Gala at the Royal Sonesta Hotel, which raised $102,000 for the fight against diabetes. Orlander is a distinguished teaching professor of The University of Texas System. He joined the faculty of the UTHSC Medical School in 1983, and was appointed division director in 1993.

WADE R. ROSENBERG, M.D., FACS, a general and vascular surgeon at Houston Methodist Hospital, was recently named the inaugural recipient of the Robbins Master Clinician Award by the Society for Surgery of the Alimentary Tract (SSAT) at their annual meeting in Chicago in May. The SSAT established the Robbins Master Clinician Award in 2013 to recognize an outstanding clinical surgeon. The award is presented annually to a member of the SSAT who exemplifies excellence in clinical surgery. Rosenberg has served in several leadership positions including acting chief of surgery at Houston Methodist Hospital and president of the medical staff at Houston Methodist Hospital.

BINTU TEH, M.D., FACS, professor, vice chair and full member in the Department of Radiation Oncology at Houston Methodist Hospital, was recently named the inaugural recipient of the Robbins Master Clinician Award by the Society for Surgery of the Alimentary Tract (SSAT). The SSAT established the Robbins Master Clinician Award in 2013 to recognize an outstanding clinical surgeon. Teh has contributed significantly to the field of radiation oncology, including pioneering innovative technology such as intensity-modulated radiotherapy, image-guided radiotherapy, stereotactic body radiotherapy, accelerated partial breast irradiation and combining these techniques with chemotherapy and other modalities.

ANITA HUFFT, PH.D., M.S.N., has been named the new dean of the Texas Woman’s University (TWU) College of Nursing for the university’s Denton, Dallas and Houston campuses. A TWU alumna, Hufft previously served as TWU College of Nursing and Health Sciences for Valdosta State University. She began her duties at TWU on July 1. A registered nurse, Hufft served as a professor of nursing and dean of the College of Nursing and Health Sciences for Valdosta State University. She has also held academic appointments at Louisiana State University, among others.

ELIZABETH R. WILSON, M.S., was recently named the new director of development for The University of Texas School of Dentistry at Houston. She began the job this summer and will report to Dean John A. Valenza, DDS. Wilson was most recently employed as vice president of resource development for Bering Omega Community Services, and she has worked in nonprofit health care development for 28 years, with a resume that includes the American Heart Association, the Lasker and Lymphoma Society, the American Diabetes Association and Cancer Crusaders Inc.
MD Anderson Announces First Latin American Clinical Partnership

The University of Texas MD Anderson Cancer Center, announced a partnership with Hospital Israelita Albert Einstein (HIAE) to pioneer multidisciplinary patient care in Brazil and advance MD Anderson’s mission to eliminate cancer globally. The affiliate private hospital located in São Paulo will be the first clinical extension of MD Anderson in Latin America and the first international member of MD Anderson Cancer Network®, a select group of hospitals and health systems with access to best practices, education, research and treatment protocols developed at MD Anderson.

“Our mission and vision challenge us to be the single most impactful institution in relieving the burden of cancer globally, and we can achieve this by extending our brand of prevention, care, research and education to like-minded organizations worldwide,” said Ronald DePinho, M.D., president and professor in radiation oncology, department of surgery, MD Anderson.

“Together, we’re changing the way cancer care delivery is managed in Latin America,” said Deborah Kuban, M.D., professor in Radiation Oncology. “This marks a new era in cancer care delivery in Brazil. This is a novel approach to cancer management in Latin America.”

Deborah Kuban, M.D.
Professor in Radiation Oncology

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— DEBORAH KUBAN, M.D.
Professor in Radiation Oncology

The partnership represents a historic milestone in the institutions’ long-standing relationship. HIAE became MD Anderson’s first formal sister institution in 2002, leading to a number of academic exchanges. Since 2011, MD Anderson has provided specialized expertise to help transform HIAE’s oncology program into a premier cancer center by focusing on patient care, research, education and prevention. Their joint efforts have resulted in the launch of multidisciplinary breast, genitourinary, thoracic, neuro-oncology and gastrointestinal clinical teams, a new cancer prevention program and the redesiging of oncology facilities to centralize services and optimize the patient experience.

HIAE opened a new Oncology and Hematology Center last December, modeled after MD Anderson’s facilities. The four-story structure features 23 exam rooms, 10 radiation therapy rooms, areas for meditation and yoga therapy and gardens designed to offer comfort to patients and their families. It offers state-of-the-art technology, including minimally invasive surgical techniques, advanced imaging and the first True Beam linear accelerator in South America for cutting-edge radiotherapy techniques.

Founded in 1934, HIAE was the first hospital outside the United States to be accredited by the Joint Commission International (JCI) and became Latin America’s first multidisciplinary hospital in 1949.

"We've been improving the design to get it to the point where it's ready to be titled in clinical trials," she said. "We're currently testing how well it can detect breaths and apnea on breathing simulators."

Gilbert, fellow in neuromuscular disease at Rice University, also attended the event. She helped present BreathAlert and reported on progress in the ongoing clinical trial. The low-cost device incorporates a stretch sensor that wraps around a child’s chest and a vibration actuator if the child stops breathing for more than 15 seconds. It is intended for use in Spanish-speaking hospitals in developing countries.

"Sixty seven percent of babies born before 32 weeks’ gestation suffer from apnea, a breathing condition that can cause cognitive damage or death if not treated. The BreathAlert device, originally designed in 2012 by engineering students as their senior capstone project, will be evaluated and optimized to detect and correct episodes of apnea in low-resource settings where traditional vital-sign monitoring is not possible."

The grant is the third to Rice in the highly competitive program’s four years. The SCAPdev device was seed grant in its program’s first year and a later “transition-to-scale” award in 2017. BreathAlert is also being tested in African hospitals.

The Grand Challenge funded 59 projects in its first three years, address 285,000 maternal deaths, 2.3 million neonatal deaths and 2.6 million stillbirths that occur in the world each year.

—— Mike Williams, Rice University
A t a time when most are fleeing the world, one of Galveston’s own flew in to help. Thomas Ksiazek, director of high-containment laboratory operations for the Galveston National Laboratory at The University of Texas Medical Branch, left for Sierra Leone on August 14 to lead U.S. Centers for Disease Control and Prevention Ebola outbreak control operations, assuring the government of Sierra Leone.

Ksiazek is part of a massive effort being supported by research and medical professionals from the CDC as well as from other institutions from around the world.

Ksiazek is director of the National Biodefense Training Center and a world-renowned virus expert with 40 years of experience on the front lines of some of the worst outbreaks the world has ever seen. Before coming to the medical branch, he was chief of the Special Pathogens Branch at the CDC in Atlanta where he coordinated outbreak and control responses to especially dangerous pathogens such as Ebola, Marburg and SARS. In fact, he discovered the SARS virus.

Through the years, he has played a significant role in disease discovery and outbreak response efforts in Asia, Africa, South America and the Middle East. Sierra Leone is where the worst of the current Ebola outbreak is centered. Ksiazek will not be treating patients. As a veterinarian, epidemiologist and expert in viral diseases in international and developing world settings, he will be looking to contain the current epidemic.

— Kristen Hensley, UTMB Communications

UTMB Scientist Heads into Ebola Hot Zone

Seeking eventual solutions to problems ranging from alcoholism, cancer and Alzheimer’s to finding better ways to clean contact lenses and use Legos to model buildings, University of Houston (UH) students devoted the summer to some serious scholarship.

Delving into a number of complex projects over the course of six weeks, 61 students across a variety of disciplines each received $3,500 stipends for an intense, full-time research experience in the Summer Undergraduate Research Fellowship (SURF) program under the mentorship of UH faculty members. “When I saw the opportunity to work in the lab doing research on neurotransmitters, a career that usually targets children and teenagers, I was very interested to get a look behind the scenes,” said senior Sara Elchehabi.

“Working under the mentorship of professor Prasheel Gunatant in the Department of Biology and Biochemistry, Elchehabi is studying a specific type of RNA that may be able to control what a cell matures into, possibly being able to correct cancer cells to fat cells, which is easier to eliminate than cancer,” she said.

In the lab, students are trying to understand how alcohol changes the actions of the neurons in the brain to bring about tolerance and other behavioral changes that can result in alcohol abuse and addiction,” Tarique said. “We are studying the effect of alcohol on neural activity using fruit flies. Since we understand which proteins activate alcohol receptor links, we can then use these proteins to develop drugs to interfere with this interaction, which may inhibit the formation of tolerance and help stop people from becoming addicted to alcohol.”

Another biology senior, Sara Rezaei, is working with College of Pharmacy professor Jason Erikson, researching one of the lesser studied aspects of Alzheimer’s disease. He is working with Erikson to analyze 3-D images of brain tissue using a computer program that will give them a better understanding of changes in the blood vessels of the brain, what these changes are and how they relate to other effects of Alzheimer’s.

“SURF has allowed me to spend much more time in the lab, which has made me more confident in my work,” Rezaei said. “Hopefully, this technology will pave the way for future studies to give us a more complete picture of how the brain is affected by Alzheimer’s, with the goal of creating new treatments.”

Echoing Rezaei’s sentiments about the value of lab experience, senior’s biology and biotechnology double major Sara Elchehabi said, “working in the lab has given me the opportunity to exercise my problem-solving skills and develop a conceptual understanding of what I am studying in my classes.”

Embarking on what may be more immediately applicable research, Elchehabi is working under College of Optometry professor Alison McDermott on what may be an efficient alternative for cleaning contact lenses. She is analyzing whether the addition of a particular antiviral agent to contact lens solution may prevent the growth of a common bacteria known to grow on contacts.

“Contact lens wearers are especially susceptible to infections caused by bacteria,” Elchehabi said. “While solutions containing hydrogen peroxide are best at protecting the wearer from infection, they require a minimum soaking time and complicated preparation process. A solution that resists bacterial growth more effectively could offer lens wearers the greater protection they desire without all the constraints of traditional contact lens maintenance.”

— LISA HENRY, University of Houston

Student Projects Include Turning Cancer to Fat, Drunk Fruit Flies

When I saw the opportunity to work in the lab doing research on neurotransmitters, a career that usually targets children and teenagers, I was very interested to get a look behind the scenes.

— SARAH ELCHEHABI, University of Houston Student

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