

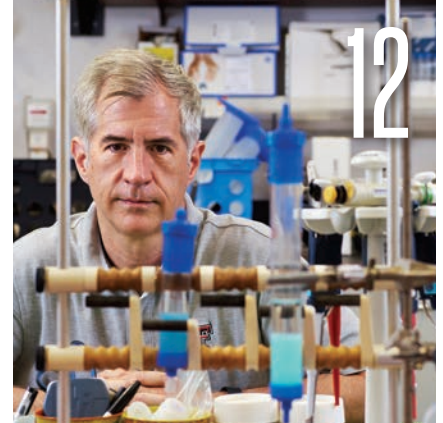
# PULSE

A PUBLICATION *for* ALUMNI & FRIENDS *of* TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

## 20 THE GIFT: A PURPOSE-DRIVEN LIFE

Sixtus Atabong, PA-C, and His Organization,  
Purpose Medical Mission, Work to Develop  
Sustainable Health Care in Developing Countries

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4 JANICE ARCENEAUX, DNP, RN, CMSRN | NURSING '12   5 MONICA CALDERON | PHARM, BCPS '08

# UPDATES

YOUR LIFE  
— our purpose —

## Breaking News

TTUHSC at Lubbock is launching Your Life, Our Purpose, an exciting new initiative, this fall. Go to [www.ttuhscl.edu/alumni](http://www.ttuhscl.edu/alumni) to learn more.

Moved recently or just need to  
update contact information?

Change it with the TTUHSC Office of Alumni Relations by emailing [TTUHSCAlumni@ttuhsc.edu](mailto:TTUHSCAlumni@ttuhsc.edu). Send us your email address to receive e-blasts with the latest news and updates from us, too. (We promise not to flood your inbox, and you'll still receive your copy of Pulse magazine twice a year.)

We want your feedback  
(and we might publish it!)

If you have an opinion of Pulse or would like to comment on one of the stories, submit your comments to Kara Bishop at [kara.bishop@ttuhsc.edu](mailto:kara.bishop@ttuhsc.edu) and it may be published in the next issue.

Coming Soon!

The alumni office is developing a blog for you and your friends to read up on classmate activities, institution updates and alumni events throughout the year.



We're Social

Visit us on Facebook:  
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We're Online

Check out our website:  
[www.ttuhscl.edu/communications/pulse](http://www.ttuhscl.edu/communications/pulse)





## SEEKING TO DO GOOD: THE STUDENT-INSPIRED FREE CLINIC PROGRAM

*“Seek always to do some good, somewhere. Every man has to seek in his own way to realize his true worth. You must give some time to your fellow man. For remember, you don’t live in a world all your own. Your brothers are here, too.”* Albert Schweitzer, MD

Our medical students have certainly taken the advice of Albert Schweitzer, MD, and followed his example. The Lubbock Impact/TTUHSC Free Clinic is a School of Medicine student-inspired program that serves the at-risk population in the Lubbock community who have neither health insurance nor a primary care physician. It serves as a safety net to help the poorest of the poor in our community to overcome sickness and start on a path toward good health and improved quality of life. Since its opening in 2009, the clinic has seen more than 3,000 patients and has expanded services offered to include more basic laboratory testing, EKGs, women’s health services as well as an in-house pharmacy, patient education and social services counseling. The clinic is open every Wednesday evening and averages more than 30 patients per night.

The clinic has a unique interprofessional volunteer mix of physicians, nurses, pharmacists and social workers, as well as medical students, nursing students, pharmacy students, social worker students and Texas Tech pre-med undergraduates. More than 300 medical students have received one-on-one mentorship with compassionate volunteer physicians, and medical students are not the only ones to benefit. The clinic now operates with the School of Nursing, School of Pharmacy, Texas Tech Department of Social Work and the Texas Tech Bernard Harris Pre-Med Society to provide interdisciplinary education and mentorship opportunities.

Students from the Paul L. Foster School of Medicine opened a clinic in the far eastern edge of El Paso in January 2014. After only 12 clinic nights, 317 patients had already been seen. Most of the patients are poor and have not had medical care in years. After less than a few months in operation, the El Paso free clinic has already been awarded two grants. The first is the Susan G. Komen for the Cure grant for screening and diagnostic mammograms and the second is an El Paso Community Foundation Stern grant for the purchase or operation of medical equipment.

Our students see these opportunities as much more than a notation on their CVs. They are working to help people, to make a difference and give back to their communities. Both clinics are headed by student leadership teams and dedicated physician medical directors. If you wish to volunteer your services or make a contribution in support of the clinics, your assistance will be placed to good use in the service of those who need it the most.

Tedd L. Mitchell, MD  
President

Summer 2014  
Vol. 24, No. 2

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## Annual “Play it Forward” Event Raises Money for Charity

For the second year, MusiCare, a group of students who use music as a way to give back to the community, hosted, “Play it Forward,” a recital of classical and pop music performed by faculty and students. The event raised \$6,205 for local charities.

MusiCare, founded three years ago by a handful of music-loving medical students, has grown to more than 30 students and now includes students from all TTUHSC schools. The group formed to emphasize the unification of two passions that each member shares: music and health care.

Asha Davidson, a second-year medical student and former MusiCare president, said, “Play it Forward” is one way to continue the tradition among TTUHSC students and the community.

“MusiCare grows musicians by bringing them together,” she said. “This event is one way to bring music performed by our students and faculty to the community.”

## TTUHSC Faculty Recognized as YWCA Women of Excellence

The YWCA recognized nine recipients of its Women of Excellence awards in March, three of whom are TTUHSC faculty. The purpose of the YWCA awards is to establish strong role models for the community’s future generations of young women.

Aretha Marbley, PhD, was recognized in the education category for teaching in the School of Medicine. Marbley is a professor and the director of community counseling in women’s studies at Texas Tech.

Ariwan Rakvit, MD, (Resident ’03) was honored in the medicine category. She completed her residency in internal medicine at TTUHSC and is currently the interim chief of gastroenterology.

Carolyn G. Perry, MS, CCC-SLP, (SOAHS ’93, ’91) was recognized in the science category. Perry is a faculty member in the School of Allied Health Sciences Department of Speech, Language and Hearing Sciences.



## Sawyer Named 2014 Minnie Stevens Piper Professor

Barbara Sawyer, PhD, MLS(ASCP), MB(ASCP), professor in the School of Allied Health Sciences Department of Diagnostic and Primary Care, was selected by the Minnie Stevens Piper Foundation as the 2014 Piper Professor for superior teaching at the college level.

Ten awards of \$5,000 each are given annually. Election is made on the basis of nominations submitted by each college or university in Texas.

The roster of Piper professors includes outstanding professors from two- and four-year colleges and universities, public and private.

Participation in the award is by invitation only. To be eligible, candidates must be nominated through a college or university president’s office.

“The Piper Professor award recognizes select professors who have demonstrated outstanding academic capability, particularly in their dedication to the teaching profession,” said TTUHSC President Tedd L. Mitchell, MD. “Dr. Barbara Sawyer exemplifies teaching excellence and her selection for this prestigious award brings distinction both to herself and our university.”

## TTUHSC Reaches Record Enrollment Numbers for Spring 2014

TTUHSC released a new enrollment record with 4,230 students enrolled in the spring 2014 semester. This is an increase of more than 6 percent over the 3,973 students enrolled last year when comparing the institution’s current components.

The School of Nursing had the highest enrollment of the TTUHSC schools with 1,618 students. The School of Allied Health Sciences had the second highest enrollment with 1,269 students. The School of Medicine enrolled 582 students. The Graduate School of Biomedical Sciences and the School of Pharmacy enrolled 132 and 629 students, respectively.

“We are pleased that TTUHSC’s enrollment of outstanding students continues to increase in all areas of health care,” said Rial Rolfe, PhD, MBA, executive vice president for academic affairs and chief academic officer. “This is particularly important given the predictions of continued shortages of health care providers in West Texas and across the country.”

## Professor Receives Grant from the Bill & Melinda Gates Foundation

TTUHSC received a grant for schistosomiasis vaccine research from the Bill & Melinda Gates Foundation. Afzal A. Siddiqui, PhD, a Grover E. Murray Distinguished Professor in the School of Medicine, received the \$2,849,281 grant for his research, “Proof of concept trial of Smp80/GLA-SE schistosomiasis vaccine.”

TTUHSC President Tedd L. Mitchell, MD, said this is the first grant from the Bill & Melinda Gates Foundation awarded to anyone in the TTU System.

“Dr. Siddiqui’s approach is to develop a vaccine that resolves the pathology,” Mitchell said. “This vaccine is intended to prevent infections as well as treat existing infection and has the potential to impact the lives of one billion people.”

Siddiqui has studied schistosomiasis for 20 years working to develop a vaccine. The disease, which affects more than 200 million people, is not found in the U.S. but is endemic in 74 developing countries. An additional 800 million people are at risk of contracting schistosomiasis.

According to the National Institutes of Health, a person gets a schistosoma infection through contact with contaminated water. The parasite swims freely in open bodies of water. Once contact is made with humans, the parasite burrows into the skin, matures into another stage, and then migrates to the lungs and liver, where it matures into the adult form. Siddiqui said detection of calcified schistosome eggs in Egyptian mummies from the 20th dynasty (1250-1000 BC) indicates schistosomiasis is an ancient disease.

Despite mass treatment with drugs, infection rates continue to rise. Durable and sustained reduction in the disease spectrum and transmission can only be obtained by long-term protection through vaccination.



Steven L. Berk, MD, executive vice president, provost and dean of the School of Medicine, said Siddiqui is an individual of extraordinary value in parasite immunology and vaccine development.

“Although this disease is not seen in the U.S., this should concern everyone,” Berk said. “Parasites can be seen in our military members and people traveling internationally. With this research, Dr. Siddiqui hopes to have his vaccine in clinical trials in the next few years, which will have a huge health and economic impact for many people across the world.”



## TTUHSC Student Honored

Justin M. Bishop, a second-year medical student received the Texas Medical Association (TMA) Medical Student Section (TMA-MSS) Student of the Year Award.

Since 1998, TMA-MSS has recognized an outstanding student member who excels in furthering the section’s goals and policies to improve Texas’ health care system. The chapter aims to engage students in organized medicine by encouraging their involvement in local county medical societies TMA and the American Medical Association; and providing direction to health-related activities at all levels of education.

“The TMA is similar to most other professional organizations, in that it works to address challenges facing its profession and to improve its professional climate,” Bishop said. “But what makes TMA different is

that we have patients to care for and we can’t afford to stand still. TMA knows no matter what, it must continually stand up and keep moving forward. That’s why I’m a proud member.”

Bishop is active in organized medicine. He has served as president of the TTUHSC Student Interest Group in Neurology, as well as treasurer for the TMA student chapter at TTUHSC and the TTUHSC Preventive Medicine Club. He currently serves as TTUHSC’s Association of American Medical Colleges student representative and has created new curriculum, which includes an elective teaching students how to incorporate novel research and procedures into the clinical teaching setting.

# 5 minutes with the faculty...

## RIGHT PERSON FOR THE JOB

**DEBORAH CASIDA, MSN, RN** | From Fast Food to TTUHSC at Amarillo | *By Laura Ray*

For Deborah Casida, MSN, RN, working as the site coordinator for the School of Nursing Second Degree Baccalaureate Nursing Program in Amarillo has truly been a blessing.

Casida had been working as a manager of a McDonald's restaurant while raising four children when she decided to make a career change. She earned her associates degree in nursing from Amarillo College in 1992 and received her bachelor's degree in nursing from West Texas A&M University (WT) in 2001. It was the encouragement of her professors that led her to teaching.

"I had never thought about it (teaching) before and my mentors at WT showed me that teaching was something I could do."

She continued her education, earning her master's in nursing in 2005 from the University of Phoenix and then began teaching at

WT while working at Northwest Texas Healthcare System.

Casida had worked for TTUHSC in the early 1990s through the prison system where she served as a psychiatric nurse, charge nurse and educator. In 2013, when the Second Degree Baccalaureate Nursing Program came to Amarillo, a friend encouraged her to apply.

The Second Degree program is an accelerated, 12-month curriculum that requires students to have a bachelor's degree from an accredited college or university and complete a Certified Nursing Assistant program. The program requires 225 clinic hours per semester, 45 clinic hours per specialty course and includes one-on-one coaching.

As site coordinator, Casida enrolls students and provides on-site support. The program graduated its first class of five students in May and has plans to graduate 15 students in 2015 and 40 students in 2016. Casida said the positive support from faculty and the leadership of School of Nursing Dean Michael Evans, PhD, RN, FAAN, has been instrumental in the program's success.

"The support and encouragement has been the best I have ever had," she said.

Casida looks forward to growing the program and teaching online courses for the School of Nursing. While she has only been in the position for a year, it is clear that TTUHSC picked the right person for the job.



Casida is a member of the Texas Nursing Association, Sigma Theta Tau Iota Mu Chapter, Emergency Nurses Association and Amarillo Downtown Lion's Club.

She has been an American Heart BLS instructor since 2002, an American Heart PALS instructor since 2012 and an American Heart ACLS instructor since 2012.

She has a chapter published in 'Innovated Teaching Strategies in Nursing and Related Health Professions' and is currently writing an article for publication.

Casida plans to begin her Doctor of Nursing Practice degree within the year.

She enjoys quilting and teaches a quilting class twice a year.



## Odessa Doctor Nationally Recognized

Suresh Prasad, MD, FACP, (Resident '99) clinical faculty member in the School of Medicine at the Permian Basin, has been recognized for his work in obesity medicine by being named a Diplomat of the American Board of Obesity Medicine. He is one of the few doctors in Texas to be recognized as such.

The honor ranks Prasad among approximately 800 physicians nationwide who are board-certified in obesity medicine. He was one of 158 physicians, out of more than 300, who successfully completed the Certification Examination for Obesity Medicine Physicians last year.

Prasad was featured in the Summer 2012 issue of *Pulse*.

## Student Government Association Awards Scholarships Through Phonathon Program

The Student Government Association (SGA) gave 75 scholarships totaling \$83,500 to more than 70 students from all disciplines to pursue degrees in the health sciences. Individual scholarship awards ranged between \$500 and \$1,500.

The SGA Phonathon Scholarship Program was established in 1989 to raise funds for the Student Endowed Scholarship Fund. All students with a GPA of 2.5 or higher are eligible. Applications are peer-reviewed in recognition of school activities, community service and demonstrated leadership ability.

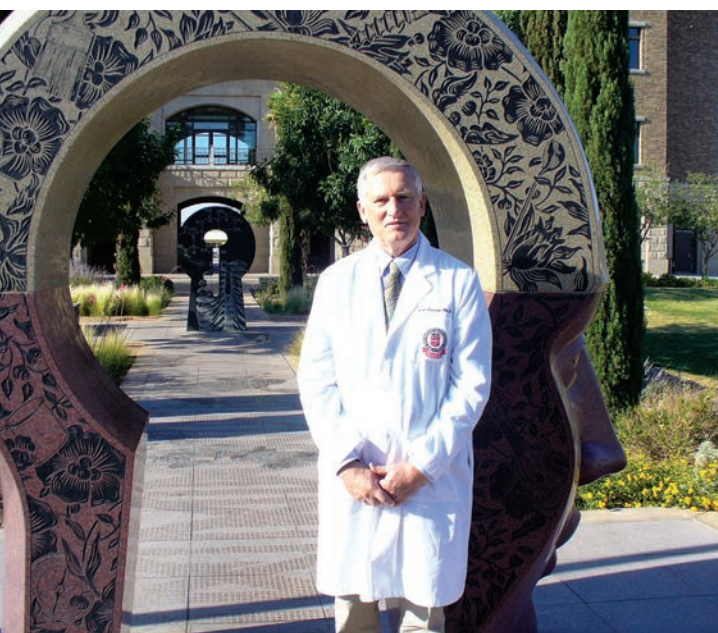
The purpose of the annual Phonathon event is to raise money to add to the endowed scholarship fund and to foster communication and networking between students and alumni working in each respective health profession.



## El Paso's Family Medicine Center Recognized

TTUHSC at El Paso's Family Medicine Center has been recognized by the National Committee for Quality Assurance as a level-one, patient-centered medical home — a recognized symbol of quality of patient care.

The Family Medicine Center's board-certified family physicians deliver comprehensive, coordinated and integrated primary care services. Eleven of them are also recognized as Best Doctors in America, a recognition that includes 5 percent of physicians in each specialty nationwide. All the doctors are faculty members in the Department of Family and Community Medicine at the Paul L. Foster School of Medicine.



## Professor at the Paul L. Foster School of Medicine Honored

Herb Janssen, PhD, (GSBS '80), professor in the Department of Medical Education at the Paul L. Foster School of Medicine, was selected as the 2014 Arthur C. Guyton Physiology Educator of the Year by the American Physiological Society (APS).

The award recognizes a faculty member of the APS for excellence in classroom teaching over a number of years at the undergraduate, graduate or professional levels, a commitment to the improvement of physiology teaching within the candidate's own institution, and contributions to physiology education at the local, national and international level.



# MATTERS

of the heart

By Holly Leger

Jon Oden, MD, (Resident '00, '98; SOM '97) stands on the edge of the dock, overlooking the lake at Camp Sweeney, a camp for children with diabetes. This particular day is filled with shrieks and cheers, as he watches campers jump in the water.

Normally, Oden would join them. The lake is refreshing during the hot summer afternoons at the camp in North Texas.

But today is different. Once every four years, Camp Sweeney holds a special winter camp session at the end of December, and the lake becomes a test of endurance.

The campers call it the “Polar Bear Dunk” and Oden was having no part of it — or so he thought.

“I wasn’t going to at first,” Oden said, “but everybody did it, so I kind of felt pressured.”

Oden planned to jump straight in and out, like the younger campers, until a few teenagers raised the bar.

“They actually jumped in, immersed themselves, swam around a boat that was maybe 10 feet off the harbor and then swam back,” Oden said. “So I had to do that. I was in the water for maybe two minutes.”

What did he get in return? A souvenir T-shirt for his trouble.

But to Oden, experiences like that are worth so much more. As the medical director at the annual summer camp, Oden not only provides medical assistance for the children, who range in age from five to 19 years old, but he also teaches them how to live healthy lifestyles with diabetes.

Oden knows firsthand what it’s like because he’s diabetic, too. He was diagnosed with Type 1 diabetes when he was 10 years old.

And now, as a pediatric endocrinologist at Children’s Medical Center of Dallas, Oden said he better understands his patients and their families, since he’s experienced similar problems and struggles to theirs.

One of Oden’s jobs at Children’s Medical Center is serving as the director of the Center for Obesity and its Consequences in Health (COACH) Clinic. He works with children suffering with health problems associated with weight gain.

Through a multidisciplinary team of health care professionals, the COACH Clinic educates children and their families about healthy lifestyle changes and provides weight management therapy to help them avoid future health risks.

While some families can make a complete 180-degree turn, Oden said other patients find motivation by taking small, progressive steps in producing a healthier lifestyle. For example,

Patient Progress Makes  
Doctor’s “Icy” Efforts Worthwhile



his staff might advise patients to cut out sodas one month and cut portion sizes the next.

Either way, once the patient’s motivation is there, great things can happen, Oden said.

He has seen the proof, not only at Children’s Medical Center, but at Camp Sweeney, too.

“We see kids that are really good with their diabetes and know everything. They’re really just a beacon for us,” Oden said. “They show the other kids who they are, their good control, what they can achieve and how they can do that.”

Even the small achievements, like convincing a doctor to do the “Polar Bear Dunk,” is what Oden said makes his work worthwhile.

*Matters of the Heart is a narrative in PULSE designed to highlight the passion for health, wellness and humanity shown through the work of our alumni, faculty, staff, students and friends. Story suggestions are welcomed.*



Sasanka Ramanadham, PhD, receives the 2012 Distinguished Alumni Award.



## Annual Research Week Banquet Celebrates Student Investigations

Every year students in the Graduate School of Biomedical Sciences organize Student Research Week to showcase the next generation of biomedical researchers and their work and invite distinguished national and international speakers to present discoveries on a specific theme as chosen by students.

Graduate Student Association (GSA) President, Dhyanesh Patel, said the GSA wanted to celebrate those who worked to organize Student Research Week and also raise funds to honor a past professor at this year's banquet.

"GSA is the student group for GSBS. What better way to celebrate research week than to honor Dr. Harry Weitlauf, a man who impacted many TTUHSC students," Patel said. "The best way to accomplish that was to support the Hope Lodge with the proceeds from the banquet."

The American Cancer Society Hope Lodge provides free temporary housing in a nurturing environment for cancer patients and their family members or caregiver. Harry Weitlauf, PhD, professor emeritus who served as the chair of the Department of Cell Biology and Biochemistry for more than 30 years, worked to bring Hope Lodge to Lubbock.

"We raised \$2,620 for the Hope Lodge," Patel said. "We are appreciative of those who contributed to help the many who use their services."

Distinguished guests at the banquet included Martin Chalfie, PhD, Nobel Prize Laureate in Chemistry 2008 and professor of biological sciences at Columbia University; and Lee Josephson, PhD, with the Center for Advanced Medical Imaging Sciences at the Massachusetts General Hospital Martinos Center for Biomedical Imaging and Harvard Medical School. Also present to receive the 2012 Distinguished Alumni Award was Sasanka Ramanadham, PhD, (GSBS '85) professor of cell, developmental and integrative biology at the University of Alabama at Birmingham.

## Varma Receives 2014 Platinum Award

Surendra K. Varma, MD, Distinguished Service Professor and vice chair of pediatrics in the School of Medicine, was recognized by the Texas Medical Association (TMA) as the 2014 Platinum Award winner.

The award is presented to physicians who have shown excellence in academic medicine. TMA created the award in 2012

to honor Texas physicians who have focused both on treating patients and teaching new doctors.

"I am deeply honored to receive this award," Varma said. "Throughout my professional life my motto has been to provide the best possible patient care, give students and residents the best education I am capable of providing, offer professional collegiality, and be part of organized medicine."



## TXCNS Elect Nursing Faculty as President

Alyce Ashcraft, PhD, RN, School of Nursing professor and associate dean for research, has been elected president of the Texas Clinical Nursing Specialists (TXCNS). Ashcraft's term began in January and ends May 2015.

Ashcraft was also named co-editor for the National Gerontological Nursing Association's section of Geriatric Nursing, a comprehensive source for clinical information and management advice relating to the care of older adults.

"Alyce Ashcraft's election as TXCNS president and selection as co-editor of Geriatric Nursing are evidence of her commitment to and powerful leadership in the profession," said Michael Evans, PhD, RN, dean of the School of Nursing. "Her leadership is demonstrative of the School of Nursing's commitment to outstanding nursing practice and enhances the school's visibility in the professional nursing community. We are pleased she will have such an active role in transforming the future of nursing."

As TXCNS president, Ashcraft will also be its spokeswoman.

"This will be a tremendous opportunity to represent TXCNS professionals across the state of Texas, especially when the legislature convenes again," she said.





## Lange Named Founding President of TTUHSC at El Paso

The TTU System selected Richard Lange, MD, as the founding president and new dean of the Paul L. Foster School of Medicine at El Paso. Lange began his duties July 1, 2014.

“We are delighted to have found such a great candidate for our first president and new dean,” said TTU System Chancellor Emeritus Kent Hance. “I am confident that Dr. Lange is the man for the job as president of TTUHSC at El Paso and new

dean of the Paul L. Foster School of Medicine.”

Lange served as vice chairman of medicine and director of educational programs at the University of Texas Health Sciences Center at San Antonio, where he was a tenured professor. He was formerly tenured and held a faculty appointment at Johns Hopkins Medicine in Baltimore.

“The quality of candidates that were reviewed through our search process was incredibly impressive,” said TTU System Board of Regents Chairman Mickey Long. “The committee members worked tirelessly to ensure that we identified the most qualified leader to take the reins in El Paso, and I am certain Dr. Lange is the perfect fit for the job.”

Lange obtained his bachelor’s degree in biochemistry from the University of North Texas, his medical degree from the University of Texas Southwestern Medical School in Dallas and completed his residency training at Johns Hopkins Hospital. He served at UT Southwestern as the Fellowship Program director, held the Jonsson-Rogers Chair in Cardiology and was director of the Bernard and Audrey Rapoport Center for Cardiovascular Research. He also served as chief of clinical cardiology at Johns Hopkins Hospital and was a E. Andrus Cowles Professor there.

“To have someone with the qualifications and experience of Dr. Lange as our founding president and new dean in El Paso is a tremendous feather in the cap of the TTU System,” Hance said.



## The Lubbock-Crosby-Garza County Medical Society Presents Gift for Scholarships

The Lubbock-Crosby-Garza County Medical Society (LCGCMS) Foundation presented TTUHSC President Tedd L. Mitchell, MD, with proceeds from the Well Into the Future scholarship dinner. The gift will be used for scholarships for School of Medicine students. Matching funds were provided from an anonymous donor doubling the value of the donation to a total of \$50,000.

Mitchell said the institution is fortunate to have the support of LCGCMS.

“This contribution is a tremendous investment in the future of our medical students,” Mitchell said. “We are grateful to LCGCMS for all of their hard work to make this event happen and for the scholarship dollars that will make such an impact for our students.”

Naga Bushan, MD, past president of LCGCMS and current president of the LCGCMS Foundation, said scholarships are essential to keep providing needed physicians in West Texas.

“TTUHSC’s presence in West Texas has a multibillion dollar impact in the area,” Bushan said. “The School of Medicine has educated many physicians in our community and the LCGCMS wants to raise more scholarship funds to attract the best medical students to West Texas.”



## Student Regent Appointed for TTU System

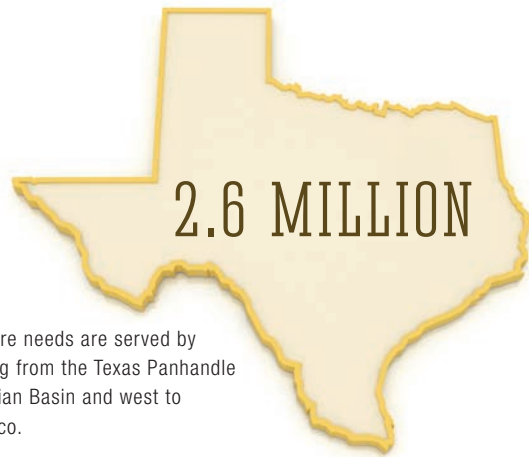
Coby Ray, a dual degree student in the joint MD/MBA program between TTUHSC and Texas Tech, has been appointed as the new TTU System student regent for 2014-2015.

Ray is the ninth student to serve on the Board of Regents, and his one-year term began June 1.

“Coby has been a proven leader during his time at the Texas Tech University Health Sciences Center,” said TTU System Chancellor Emeritus Kent Hance. “He previously earned his master’s degree from the Rawls College of Business, and I know he will do an outstanding job representing the students from each of our component institutions.”

Ray, a native of Plano, Texas, and a fourth-year medical student, is currently studying to become a pediatric neurosurgeon.

“It is a huge honor to have been appointed student regent,” Ray said. “I am excited to work alongside the Board of Regents and look forward to serving as an advocate for my fellow students through the TTU System.”



people's health care needs are served by TTUHSC, stretching from the Texas Panhandle south to the Permian Basin and west to Eastern New Mexico.

# JUST *The facts*



students have graduated from TTUHSC in the cumulative years of 1974 to 2013.



pounds of medication have been collected since the inception of the Medication Cleanout project by the Texas Panhandle Poison Center and School of Pharmacy. To learn more, visit: [www.medicationcleanout.com](http://www.medicationcleanout.com)



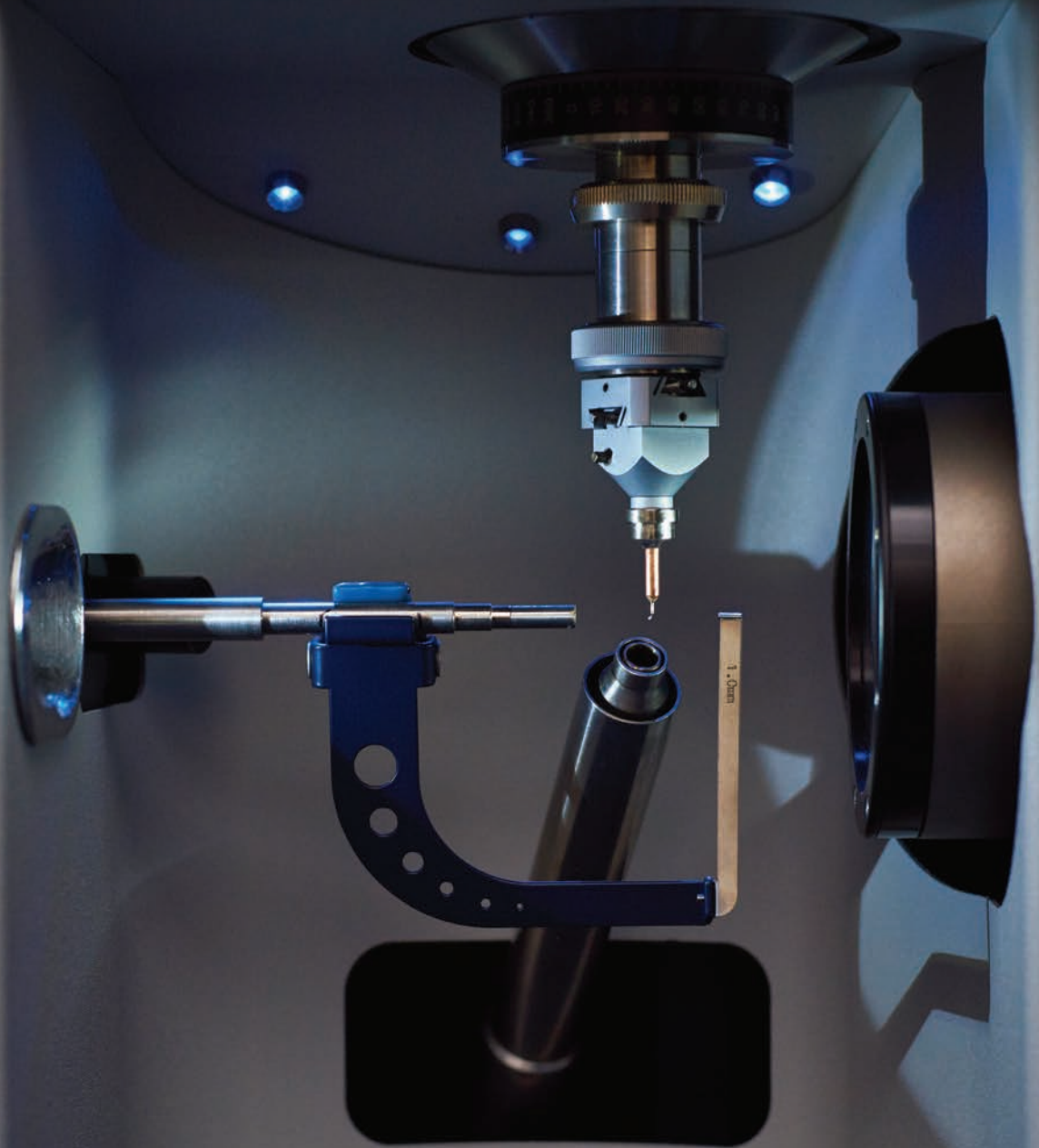
students have completed the MD/MBA dual degree program since 1998. To learn more, visit: [www.ttuhsu.edu/som/admission/mba.aspx](http://www.ttuhsu.edu/som/admission/mba.aspx)



is the current endowment level for TTUHSC.

# DISCOVERIES

RESEARCH & SCHOLARLY ACTIVITY



Protein crystallization may lead to important discoveries in treating muscular dystrophy, thanks to the work of Bryan Sutton, PhD



The Pathway to Hope Professor Examines the Role

# of Protein in Muscular Dystrophy

R. Bryan Sutton, PhD, associate professor in the Graduate School of Biomedical Sciences Department of Cellular Biology and Molecular Biophysics, began working with X-ray crystallography by chance while working as a lab technician and graduate student at the University of Texas Southwestern Medical Branch in Dallas, Texas.

Stephen Sprang, PhD, then of the UT Southwestern Department of Biochemistry, needed a technician with experience in protein purification and chose Sutton for the job.

“Almost immediately, he gave me the task of purifying annexin 6 from cow liver. Eventually I figured out how to purify that protein, as well as annexin 4. I remember thinking that I didn’t have the patience for this crystallography stuff, since it could take weeks or months to crystallize a protein. However, I came in the lab very early one morning, checked my crystallization experiment and saw huge crystals of annexin 4. I didn’t know what protein crystals looked like at the time, so I ran around the corridors trying to find someone to look at these crystals. Turns out they were indeed protein crystals that diffracted to very high resolution. After that, I was hooked.”

The crystallization of annexin 4 and annexin 6 completed, Sutton agreed to help a fellow graduate student measure the secondary structure of what Sutton termed, “this cool little protein (the C2A domain of rat synaptotagmin1)” that he had just expressed.

“Since I was the guy who was responsible for the circular dichroism spectrometer, I offered to measure it for him. It was a lovely beta-sheet protein, and it was easy to express in bacteria and purify.”

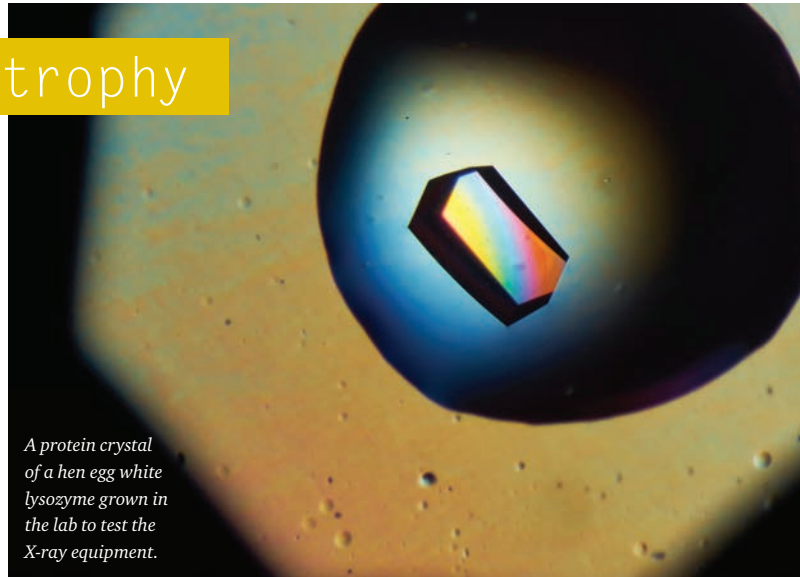
The other student then asked Sutton to make crystals of the domain and Sutton agreed.

“We made more protein, set up crystallization experiments and I grew massive protein crystals. I solved the X-ray crystal structure using the data we got from those crystals. It turned out to be the first C2 domain crystal structure ever solved.”

After earning his doctorate in biochemistry with a specialization in structural biology, Sutton completed a post-doctoral fellowship at Yale studying the SNARE complex — a large protein superfamily whose primary role is to mediate vesicle fusion. He then joined the faculty of the University of Texas Medical Branch (UTMB) in Galveston as an associate professor. While there, he successfully solved the structure of the two C2 domains in the synaptotagmin protein.

“Unfortunately, it was thought at the time that the C2 domain had no influence on disease processes, and federal funding is not received for things that don’t cause a disease,” Sutton said.

Shortly before leaving UTMB for TTUHSC in 2009, Sutton was contacted by the Jain Foundation to examine the role of the protein dysferlin in limb-girdle muscular dystrophy (LGMD) and Miyoshi myopathy (MM). LGMD primarily affects the shoulders and hips and comes in more than 25 forms. The most severe forms can cause




*A protein crystal of a hen egg white lysozyme grown in the lab to test the X-ray equipment.*

patients to lose the ability to walk by the time they are 10 to 12 years old and shorten lifespans to only 20 to 30 years. Less severe forms can take two to three decades to progress from symptom onset to the need for a wheelchair and do not affect lifespan. MM begins in the calves and slowly spreads up the legs and into the gluteal muscles. Like the less severe forms of LGMD, MM does not affect lifespan, but leads to the loss of the ability to walk.

Upon his arrival at TTUHSC in 2009, Sutton began working on creating a three-dimensional model of the dysferlin protein. Dysferlin helps repair damage to muscle cell membranes caused by normal wear-and-tear. When the dysferlin protein has certain point mutations in its C2 domains, it no longer functions properly, causing irreversible muscle atrophy. Recently, Sutton discovered that the first C2 domain on the dysferlin protein can have one of two forms. These two different forms allow dysferlin to bind to multiple classes of receptors making it capable of interacting with the variety of molecules needed for the repair of muscle tissue. The uniquely flexible properties of C2A / C2Av1, however, may make it highly susceptible to the effects of point mutations. In other words, the C2 domain of dysferlin can be compared to a Slinky toy that can be flexed in many directions, yet still return to its original form and continue to function. However, if just one coil of the Slinky is creased, the toy will no longer work correctly and will never look the same again. That crease is the equivalent of a point mutation in the C2 domain.

Sutton says that the next steps of his research will involve solving the crystal structure of the six remaining C2 domains of the dysferlin protein.

“We would like to examine the crystal structure of each C2 domain of dysferlin and try to figure out why mutations cause disease, and if something can be done to repair the damage,” Sutton said.

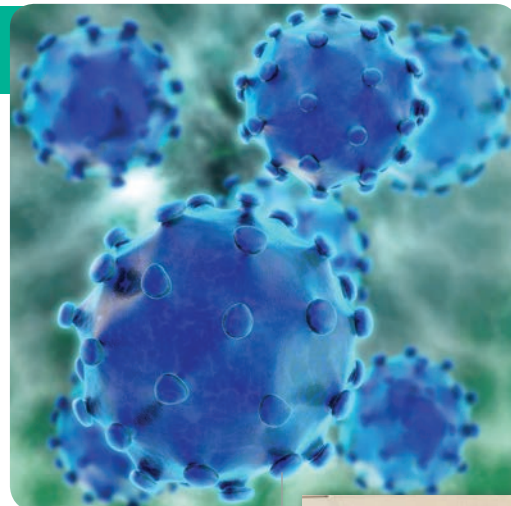
If the damage can be repaired, there will be new hope for those suffering what is now an incurable disease. 

## HEPATITIS C DIAGNOSIS CRITICAL FOR LONG-TERM HEALTH

From Woodstock to Studio 54 and beyond, baby boomers have seen some of the best parties of modern times. Unfortunately, those parties may have legacies beyond pictures. Ogechika K. Alozie, MD, MPH, treats patients with hepatitis C, many of whom are baby boomers who contracted it in the wilder times of their youth. More than 70 percent of hepatitis C cases are because of tainted needles, whether from tattoos, piercings or IV drug use. Blood transfusions before 1992 were also a means of transmission.

More than 80 percent of those with hepatitis C don't realize they have it. The most common symptom of the disease is fatigue, which is common enough as one ages. Some patients get rid of the hepatitis C virus naturally. For others, the disease never progresses beyond fatigue, joint pain, itchy skin and sore muscles. However, if left untreated, hepatitis C can lead to cirrhosis of the liver, a problem that is made worse by alcohol consumption. As with cirrhosis caused by alcoholism, cirrhosis caused by hepatitis C can lead to liver failure and the need for a transplant.

The first step to treatment of hepatitis C is diagnosis. This can be part of routine blood work at the doctor's office or by using an at-home test kit available at pharmacies. With the new classes of drugs available, Alozie said, "For the first time in a long time, hepatitis C patients have hope for long-term health."



Ogechika K. Alozie, MD, MPH, is an assistant professor in the Paul L. Foster School of Medicine Department of Internal Medicine Division of Infectious Diseases.



## SELENIUM RESEARCH LEADS TO UNIQUE DISCOVERIES

Selenium is an element that most of us give little, if any, thought. However, because of the research of Ted Reid, PhD, that may soon change.

Selenium has a unique ability to donate electrons to oxygen, thereby, creating superoxides, which prevent bacteria from binding to surfaces in the body and creating biofilms. Biofilms form the plaque on teeth and can colonize foreign objects implanted in the body such as artificial hips, tympanostomy tubes and catheters. In one study, sealant was applied to the teeth of 120 patients. On one side of the teeth, normal sealant was applied; on the other side, sealant containing selenium. A year later, there was no plaque formation on the side containing selenium. However, the same was not the case for the selenium-free side. Reid plans to next examine how to attach selenium to catheters and design selenium-based drugs that target viruses in the bloodstream.

Reid has also expanded his selenium research to include the use of the element in water filters. In coordination with Selenium, Ltd., and Phase I of a Small Business Innovation Research (SBIR) project showed that the addition of selenium to water filters reduced the mass and thickness of biofilm accumulation and led to an 85 percent increase in water throughput versus untreated control filters. The National Science Foundation issued a Phase II SBIR grant to Reid, Morse and Selenium, Ltd., to continue the development of a marketable selenium-containing water filter. This Phase II research is currently ongoing. This filter will allow for water to be recycled with lower energy expenditure than is currently required.

Ted Reid, PhD, is a professor in the School of Medicine Department of Ophthalmology and Visual Sciences, in collaboration with Abdul Hamood, PhD, professor, School of Medicine Department of Immunology and Molecular Biology; and Phat Tran, PhD, instructor, School of Medicine Department of Ophthalmology and Visual Sciences; and Audra Morse, PhD, associate dean of undergraduate studies and professor in the Texas Tech School of Engineering.





ZUMBA FITNESS AIDS TYPE 2 DIABETES PATIENTS

Zumba is a wildly popular Latin dance-based fitness program with more than 14 million participants worldwide. The combination of fun music, variable impact and a cardiovascular workout have made it the exercise of choice for enthusiasts of all ages.

Christina Esperat, PhD, RN, FAAN, and Jamie Cooper, PhD, along with colleagues from the Texas Tech departments of Human Development and Family Studies, Nutritional Sciences, and Exercise and Sports Sciences, conducted a pilot study to investigate the impact of a four-month Zumba program on physical fitness, chronic disease risk and markers for Type 2 diabetes in a group of 28 women. The women, ages 18 to 65, met three times a week for one-hour classes with a Zumba-certified instructor.

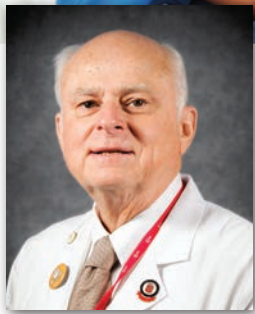
Measurements of the participants' physical fitness (flexibility, cardiovascular endurance, body composition and muscular strength and endurance), body weight, body fat, blood lipids and HBA1c (a marker for diabetes) were compared at baseline to measurements taken at the end of the study. The participants lost weight, body fat mass and improved flexibility and strength. The participants also increased motivation and positive attitudes toward exercise. The investigators believe that Zumba is an enjoyable form of exercise, which improves motivation to stay physically active. Being physically active and maintaining healthy body weight and fat are crucial to maintaining health, especially in women with Type 2 diabetes.



*Christina Esperat, PhD, RN, FAAN is the School of Nursing Associate Dean for Clinical Services and Community Engagement.*



*Jamie Cooper, PhD, is an assistant professor in the Texas Tech Department of Nutritional Sciences.*



*Richard McCallum, MD, is a professor of medicine in the Paul L. Foster School of Medicine, founding chair of the Department of Internal Medicine and the director of gastroenterology research.*

GASTRIC PACEMAKER INVENTED TO HELP GASTROPARESIS PATIENTS

For most people, eating a meal is a simple, and usually pleasurable, experience. For those with gastroparesis, mealtime can be much less pleasant. Gastroparesis is a disorder caused by stomach muscles not working properly, therefore, not moving food further along the digestive tract. This leads to inability to finish the meal, fullness and abdominal discomfort, which can lead to nausea and vomiting. Dietary changes and medications can help the symptoms; however, when the medications do not work or are not tolerated, there have been no other options until recently.

Richard McCallum, MD, invented a gastric pacemaker to help gastroparesis patients who do not respond to medications. Much like a cardiac pacemaker, the gastric pacemaker transmits electrical stimuli to the muscles of the stomach, resulting in more effective contractions, thus, moving food out of the stomach more rapidly and into the small intestine. A recent clinical study of 32 patients found an 87 percent reduction in weekly vomiting frequency, as well as statistically significant improvements in gastric emptying, the other gastroparesis symptoms and a decrease of hospital stays or emergency department visits.

As a National Institute of Health Center of Excellence for gastroparesis research, McCallum's team continues to enroll patients in further studies of the gastric pacemaker as well as other innovative, non-surgical treatment regimens.

"An important observation of our gastric pacemaker study was the improvement of quality of life, personally and professionally for the patients, as well as a major positive impact on health economics because of the decrease in hospital stays," McCallum said.

# Do I Have Aphasia?

LOVE TRANSCENDS ALL BOUNDARIES IN APHASIA THERAPY

AFTER READING AN ARTICLE ABOUT APHASIA IN THE LUBBOCK AVALANCHE-JOURNAL FEATURING THE SCHOOL OF ALLIED HEALTH SCIENCES DEPARTMENT OF SPEECH, LANGUAGE AND HEARING SCIENCES DISCUSSING APHASIA, BETSY JOHNSON\* PICKED UP THE PHONE. SHE KNEW THAT THE DIFFICULTY SHE WAS HAVING FINDING WORDS DURING CONVERSATIONS, COMPREHENDING SPEECH, WRITING AND EVEN READING HAD NOTHING TO DO WITH AGE — SHE WAS SUFFERING FROM APHASIA AFTER HER MILD STROKE AND NEEDED HELP.

APHASIA IS AN ACQUIRED COMMUNICATION DISORDER THAT IMPAIRS A PERSON'S ABILITY TO PROCESS LANGUAGE BUT DOES NOT AFFECT INTELLIGENCE. APHASIA AFFECTS ABOUT ONE MILLION AMERICANS, OR ONE IN 250 PEOPLE, AND IS MORE COMMON THAN PARKINSON'S DISEASE, CEREBRAL PALSY OR MUSCULAR DYSTROPHY. MORE THAN 100,000 AMERICANS ACQUIRE THE DISORDER EACH YEAR, YET MOST PEOPLE HAVE NEVER HEARD OF IT, ACCORDING TO THE NATIONAL APHASIA ASSOCIATION.

## TREATING THE *Disorder*

The most common cause of aphasia is stroke, but it can also result from head injury. Such was the case for former Congresswoman Gabrielle Giffords. She was shot in 2011 while hosting "Congress on Your Corner," an event taking place outside a supermarket near Tucson, Ariz. The bullet entered the rear left side of her brain and exited the front left side, damaging the hemisphere where the language center is located — in other words, she contracted aphasia.

Once she recovered from surgery, Giffords became an inpatient at TIRR Memorial Hermann's rehabilitation hospital in Houston. One of the speech-language pathologists assisting in her recovery was Kelley Warren, MS, CCC-SLP, (SOAHS '03) program manager of the hospital's brain injury and stroke program.

"I was one of the two therapists selected to treat Gabby and she was wonderful to work with," Warren said. "She had a fighting spirit, and it was a joy to help her in her recovery."

Aphasia treatment comes in many different forms.

"It's definitely a collaborative effort here at TIRR," Warren said. "A patient in our program can be assisted by speech-language pathologists, certified-neurologic music therapists, animals, recreation therapists, occupational therapists, physical therapists, neuropsychologists, respiratory therapists, physicians, case managers, social workers and chaplains to name a few. It's a team effort to make sure our patients suffering from disorders, such as aphasia, receive the best recovery possible while they stay with us. Patients suffering from aphasia experience some mental anguish at being 'trapped in their own mind,' so to speak. Therefore, we want to make sure they have the best resources at their disposal to learn how to overcome the disorder with an improved quality of life and successful transition back to the community."



*Bill Knowles suffered a stroke in 1996, which resulted in a speech disorder named aphasia. His wife, Hazel Knowles, has been his caretaker ever since, gleaning advice, wisdom, support and encouragement from the STAR program.*

## THE STAR OF THE *Community*

There are excellent opportunities for people in Lubbock and surrounding areas suffering from aphasia courtesy of the School of Allied Health Sciences Department of Speech, Language and Hearing Sciences. When Betsy Johnson\* picked up the phone, it was to call for inquiry into the STroke/Aphasia Recovery (STAR) Program.

The program, initiated by Melinda Corwin, PhD, CCC-SLP, (SOAHS '89, '87) associate professor and doctoral program co-director in the Department of Speech, Language and Hearing Sciences, began in 1998 with three patients.

"I was contacted by a speech-language pathologist in the Lubbock community who worked with stroke survivors," Corwin said. "She said community patients needed a place for therapy once their funding ran out and their hospital stay ended. These people may no longer have insurance benefits to cover their therapy, but they still need help and treatment."

Since its beginnings, the program has grown to approximately 65 people — 40 stroke survivors and 25 caregivers. Every Tuesday morning from the beginning of September to the end of April, the STAR Program hosts therapy sessions. The members are placed in different breakout groups depending on severity of disorder and commonalities. The eight session rooms house the Minds of the Round Table, the

Comeback Kids, the Wise Guys, the Wired Women, the Chatterboxes, the Incredibles, the Happy Faces and the Caregivers Network.

One caregiver remembers the day her husband suffered a stroke like it was yesterday.

"It was July 1996 and we had just concluded our summer vacation," said Hazel Knowles, caregiver of Wise Guys' member Bill Knowles. "We went to pick up Bill's truck from the shop, and while he was driving, he suffered a massive stroke. I was able to get him to the hospital where he stayed in ICU; it was there we learned he was a stroke survivor with a speech disorder named aphasia. I was not familiar with the word, but soon became all too familiar with the disorder. Bill couldn't speak at all; however, the hardest part came later when he realized he couldn't talk. He was always so sharp and he never lost any of his intelligence, but unfortunately he would never be able to communicate his intelligence in the same way again."

However, Bill was determined to regain optimal recovery and live a normal life.

"He worked extremely hard in rehab and always went the extra mile," Hazel said. "We had intended on travelling in a motor home in our future years and thought maybe that dream was over. However, he took a driving test on road rules and safety and scored a perfect

100! He also drove with an instructor for several hours in busy, rush-hour traffic and did so well that his rehab doctor said he was free to drive the motor home if he wanted to. We traveled every summer in that motor home until March 2013. Aphasia hasn't slowed him down and we've been able to live the life we were afraid had been taken from us. Not every moment is perfect and there are times of frustration, but with the help of friends, family and the STAR Program, we're able to enjoy the rest of our years together."

And one day, after not being able to speak at all, Bill had a major breakthrough — though Hazel couldn't enjoy it.

"He had the sweetest speech therapist and one day she came in wearing big clunky



*Every year, the STAR program puts on an end-of-year luncheon for members to enjoy and participate in. They give each other awards and give speeches.*

shoes and an interesting skirt to put it mildly," she said. "He took one look at her and in perfect speech said, 'Is that all you had to wear today?' She laughed and said, 'Mr. Knowles, do you not like my outfit?' He responded, again in perfect speech, 'No, I do not.' I was mortified and couldn't believe that of all the things he could have said perfectly, it had to be that!"

The Knowles became members of the Covenant Health Lubbock Stroke Club, which is how they heard about the STAR Program. At the time, they weren't sure if it would be a good fit for Bill because of his awareness and self-consciousness of his bad condition. However, seeing others in his predicament — some in better condition and some in worse — helped keep him motivated to improve, Hazel said. The social scene of people in similar circumstances has been a major boost to both of their spirits.

Corwin said the Caregivers Network group has been a vital asset to the STAR Program.

"There is a total life change for the caregiver of a person with aphasia, which many people don't realize," she said. "Most focus on the people with the disorder, but if you think about it, everyone's life role changes. Many of our caregivers are spouses or adult children who have had to move back home and take care of their parent. Some of the wives of our aphasia sufferers have been stay-at-home mothers all their lives and now must go into the work force to provide for the family. They're also dealing with their aphasia-stricken loved ones battling depression and frustration because of their condition. There's a lot of newfound stress, especially in the beginning, so our caregivers component has been really valuable to the STAR Program and its members."

Hazel said the Caregivers Network has been most enjoyable for her.

"I've been part of the program for almost 20 years, but it's still nice to be able to talk to individuals who are in the same boat, so to speak, as I am," she said. "It also provides different perspectives since everyone's case is different."

Kelley Warren with TIRR agreed.

"Every patient has a different case of aphasia", she said. "Whether it's the degree of severity, the attitude with which they cope, other physical variables or the nature in which they contracted the disorder, each patient must be evaluated differently. Some treatments may work on one patient, but won't work on another. However, one thing we have found to be phenomenal in language recovery is music therapy."



*Bill Knowles, member of the Wise Guys group of the STAR program, receives instruction from an SLP student.*

# Therapy DISCOVERIES, RESEARCH AND EDUCATION

The brain's "music" center exists in the right hemisphere. Therefore, once the left hemisphere's language center is damaged, patients may be able to relearn language in the right hemisphere of their brain using music.

"There has been a vast amount of research done on music therapy," Warren said. "We have therapists at TIRR certified in neurologic music therapy whose whole treatment philosophy is neuroplasticity — the brain's ability to restructure and reorganize itself. A lot of patients may not be able to speak a phrase, but they can sing the same phrase when put to music. This is because therapists are bringing in other areas of the brain and trying to remap and rewire patients' brain function. It's a phenomenal concept."

It's enlightening to see this in action. There's an astounding difference when a patient is asked to sing and play instruments rather than repeating a phrase. It's rewarding to watch, but no one gets more out of it than the speech-language pathologist (SLP) graduate students.

Every semester students apply to become what Corwin terms a STAR Student Clinician. Of the applicants only 16 graduate students are chosen. They benefit from this program in that they get to count it as part of their clinical practicum and count the therapy hours toward their graduate degree. They're getting hands-on practice with stroke survivors who have aphasia, but it's so much more than that.


"I really enjoyed working with the STAR patients," said Morgan Adams, SLP graduate student and STAR Student Clinician of the Happy Faces group. "Not only were we instructing them, but I feel like they were able to help and teach us more on perseverance and positive attitudes in the face of obstacles."

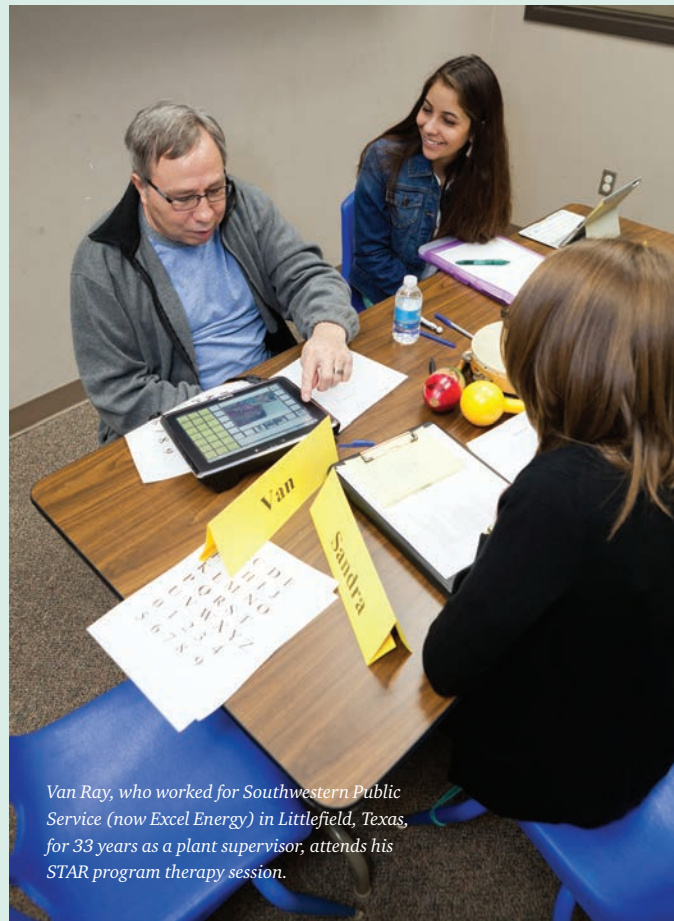
"For the members of the STAR Program, it was more than just coming to receive speech therapy, it was a time they could come together with other people in similar situations with similar struggles."

"It was such a joy to witness the friendships formed between patients during the sessions. Witnessing the caregivers' involvement had a profound impact on me, as well. It was a great opportunity to get a glimpse into what life with aphasia is like outside of the therapy room. More than anything I think that by the end of our time as student clinicians in the STAR Program, we not only gained experience working with aphasia patients and becoming better clinicians, but we also formed friendships and the STAR members will always have a special place in our hearts."

This student involvement, as well as professor involvement, is exactly what Warren meant when she gave this advice for current students and alumni.

"Always continue learning and serving," she said. "Some of the things that have helped me the most were things that furthered my education in my field, beyond graduation. There's always new research and technology out there to improve techniques and treatments of individuals in need. Remember the importance of adaptation and never get stuck in a routine or treat your profession as just a job."

"I can honestly say that the SLP program at TTUHSC helped mold this concept into my psyche. It was a very challenging program and the professors during my education stint really forced me and my fellow students to problem solve and think outside the box. There was more application-based learning than there was textbook learning, which is important since so many patient cases aren't 'by the book.' And that's what this profession is all about. Knowledge is key for your professional foundation, but 90 percent of your job is applying your knowledge, making each treatment patient-centered and patient-specific to meet their individual needs. Because, once again, every patient is different and you may have to adapt and learn new approaches for that individual." 



Van Ray, who worked for Southwestern Public Service (now Excel Energy) in Littlefield, Texas, for 33 years as a plant supervisor, attends his STAR program therapy session.

## Sr. Editor's Thoughts:

After witnessing the STAR Program in action, speaking with faculty in the Department of Speech Language and Hearing Sciences and interacting with people who have aphasia, I have come to the following conclusion. Love comes in all languages, even when the majority of that language is gestures. Showing a person with aphasia that you care first and foremost will bring them further in their recovery than any music, animal or speech-language pathologist technique. As awareness of this communication disorder increases, health care professionals must find the connection to each patient, which has been proven time and again to be love. With tears in her eyes, Hazel made the following statement:

"When you come to the realization that your loved one will never be able to communicate the same way, even though they're just as smart as they ever were, it will be devastating," she said. "However, as time passes and you lean on your friends, family and support groups like the STAR Program, you'll realize that your loved one isn't all that different. Bill can still tell me he loves me, and as far as I'm concerned, that's all we need to keep moving down life's road together."

\* Betsy Johnson is a pseudonym for this community member who has passed away, and out of respect, Pulse maintains her anonymity.

THE GIFT: A PURPOSE-DRIVEN

*Gift*



“If you ask anyone out there what the definition of charity is, they’ll tell you it’s giving something and getting nothing in return. I beg to differ.”

-Sixtus Atabong, Pa-C (SOAHS '05, '02)

RAISED BY ILLITERATE PARENTS IN A SMALL FARMING VILLAGE IN CAMEROON, WEST AFRICA, SIXTUS ATABONG, PA-C, (SOAHS '05 '02) KNEW HE HAD A PURPOSE. He migrated to the United States on a soccer scholarship, along with the sale of one of his father’s cocoa farms, and later ended up getting lost inside TTUHSC.

“I walked into the clinical lab sciences (CLS) office to get directions,” Atabong said. “As I was about to walk out, curiosity led me to ask about the CLS program. Lori Rice-Spearman, PhD, (SOAHS '86) overheard my question. She told me I could start school that year, which I thought was crazy since classes had started two weeks prior. I told her I had no money and couldn’t afford it, and I’ll never forget her response. She said, ‘That’s not what I asked. I asked if you were interested in the program.’”

Atabong took home the application, filled it out and started class the next day. Rice-Spearman, associate dean of learning outcomes and assessments and CLS program director for the School of Allied Health Sciences, had gathered used textbooks from the CLS professors for him to use and directed him to the financial aid office. The rest is history.

“What most people don’t know is I had been living in my car for three days when I visited TTUHSC,” Atabong said. “I had yet to obtain housing and that little push that I was given has made a huge impact on the person I am today.”

## THE BEGINNING OF A PURPOSE

After graduating with his bachelor’s degree in clinical lab sciences, Atabong then went on to obtain his master’s degree in physician assistant studies.

Three years came and went with Atabong practicing neurosurgery under Richard George, MD, at Grace Clinic in Lubbock. In the meantime, back in Cameroon, Atabong’s dad battled debilitating diabetes, resulting in the loss of his leg. His dad’s livelihood was farming and losing his leg was devastating.

“As a farmer from that village losing your leg means life is over and there is no hope,” Atabong said. “My father’s situation got me to thinking about all of the people in Cameroon without access to health care. Thus, the idea to build a clinic was born.”

The idea started out small. Atabong originally planned to build a small room and staff it with a nurse. This would allow farmers to come in and get their blood pressure checked and receive some preliminary care on their way home from work to help them determine if they needed to see a doctor in the city.

In 2008, Atabong along with friends and colleagues traveled to Cameroon to assess the health care of the community and build that small clinic. They grossly underestimated the need.

“That first trip to Cameroon was so overwhelming,” said Sammy Deeb, MD, (SOM '92) partner at SWAT Surgical Associates in Lubbock and Purpose Medical Mission board chairman. “I grew up in Damascus, Syria, until I was 14 years old, so I was familiar with the lifestyle of a developing nation. However, I was unprepared for the huge need and poverty level of Cameroon. The trip inspired all of us to see what more we could do for the community’s health care.”

The first trip garnered notoriety and many people of West Texas wanted to contribute. The need for an organization was quickly recognized.

“I couldn’t take money from these people because I didn’t have a non-profit established,” Atabong said. “I had never thought past the small clinic I had planned to build; therefore, an organization had never crossed my mind. The group that had accompanied me to Cameroon got together and began brainstorming, which is how Purpose Medical Mission was born.”

Since the first trip, the clinic in Cameroon has evolved into a 24/7 regional hospital with 36 employees. The staffers are all natives of Cameroon and medically trained. The Purpose Medical Mission team convinced the doctors and nurses in the big cities to come and work in the new clinic.

“We wanted to try and encourage doctors and nurses to come back to the village they grew up in to work,” Atabong said. “Once villagers have received medical training, they don’t normally come back to the region they grew up in; they stay in the city. We were able to partner with them through our network and promised them we’d support them in any way we could. All we needed was for them to come take care of these villagers that no one else cared about. Building this bridge, so to speak, was the key to sustaining the health care for the people. They needed to take care of themselves for this plan to work.”

BY KARA BISHOP

PHOTOS BY SAMMY DEEB, MD (SOM '92).  
(COVER PHOTO BY NEAL HINKLE)



The land in Muyuka, Cameroon, where the hospital now rests.



The people of Cameroon begin building the hospital.

## SUSTAINABILITY IS THE KEY

The Purpose Medical Mission organization has no control over the hospital in Cameroon. The team travels to the village to educate and provide supplies, but the people manage the clinic. Atabong said he has a sister who works there and even the mayor of the town works there. This makes the Purpose Medical Mission organization unique to most.

“We never go into a community in need without a human connection to the people,” Atabong said. “We aren’t there to take over or change their way of life. We are simply there to help them take care of themselves. Dr. Rice-Spearman didn’t pay my tuition when I showed up in her office those years ago. She showed me where to go and gave me a push in the right direction and that’s the concept we’re trying to provide to developing countries in need.”

Purpose Medical Mission now serves communities in Guatemala and Nicaragua as well; however, they’ve turned down other opportunities that didn’t fit the mission.

“If the goal doesn’t seem to be creating a sustainable infrastructure that serves the people, we don’t want to be involved,” Atabong said. “We’re trying to help people find their purpose not give them one based on our standards and values. If you don’t build the bridge with the community and find the human connection, then all you’re building is a state of dependency instead of sustaining that community’s infrastructure.”

And Purpose Medical Mission is walking the talk. Atabong is the connection between the organization and Cameroon. Jose Paniagua, FNP-C, a former TTUHSC nurse practitioner employee who grew up in Nicaragua, sits on the advisory board for the organization. He understands the people and the language and serves as the bridge of partnership between Purpose Medical Mission and the Nicaragua communities. Rose Baglia, RN, served as a nurse at Baylor College of Medicine in Houston for 21 years before she moved with her doctor to Guatemala to help operate the clinic there. She’s been living with the people and understanding their needs for approximately seven years and is the human connection between Purpose Medical Mission and the Guatemalan community.

“This human connection is the key to our organization’s success,” Atabong said. “If we don’t have an established emotional connection with the people, then all we are is a group of board members who make decisions about people we don’t know and have no attachment to, which in my opinion, always leads to toxic charity.”

The clinic in Cameroon is financially stable because of donations to Purpose Medical Mission, but also because the people of Cameroon pay for their health care.

“The funds that our organization provides take care of the infrastructure, transporting medications and medical supplies, but the actual care received by the patient becomes that patient’s responsibility,” Atabong said. “It’s a minimal fee to us; the value is equivalent to about a \$1, but it’s an incredible amount to these people. They set up installment programs to handle the financial burden, but they still pay. It would not be affordable for them at all if the United States had built the clinic and staffed it. However, we were trying to provide them with a way to take care of themselves, which is why it is structured this way. Our educational materials and efforts are what instill a sense of wellness responsibility in the villagers, which is why they’re willing to pay what seems an astronomical amount to them for their care. Once again, we’re simply helping them take care of themselves. It’s what we do in Cameroon, in Guatemala and what we’re starting to do in Nicaragua.”







*A sterile environment was needed for operations to take place in Cameroon. Purpose Medical Mission contacted Lubbock Christian University to help them fashion operating rooms from shipping containers, because the university had used this concept for their dormitories. The shipping containers were then shipped to Cameroon with a construction team who worked with the people of Cameroon to set them up as the operating rooms.*

## JOHN N. ATABONG HEALING TOUCH HOSPITAL



*The hospital in Cameroon, named for Atabong's dad who passed away last year, consists of two operating rooms, a maternity ward, a labor and delivery unit, general ward, four clinic exam rooms, wound care center, laboratory and a general medical surgery ward. The hospital is powered by generators.*

“We aren’t there to take over or change their way of life. We are simply there to help them take care of themselves.”



Emily Deeb, MD, (SOM '95) head of the Purpose Medical Mission medical team, cares for a little girl in Cameroon.

Kelsey Kirpatrick (left) and Stacy Bovine (right) attend to a child in Cameroon.

## EDUCATION, COMMUNICATION AND PARTNERSHIP

When Purpose Medical Mission sends teams out to Cameroon, Guatemala and Nicaragua, a big part of the mission is training the community members on safe medical and surgical practices and hygiene — things they're not as familiar with in these countries.

"We work year-round on developing educational curriculum for these trips," said Nicole Hines, RN, MSN, CIC, director of donor relations for Purpose Medical Mission and managing director of the TTUHSC Office of Institutional Health. "I led the education team in Guatemala this past June and there were many things we had to prepare for, especially the language barriers. The people speak a Mayan dialect, so I had a translator with me and the curriculum was translated for them as well. Our entire educational program revolves around foundational health care: washing hands, brushing teeth, and since this was our third year in Guatemala, we expanded to proper technique when administering shots, bandaging wounds and treating burn wounds."

Hines said she works primarily in Guatemala, which is so rural that leaders from the villages have to be bused in to the primary clinic. Hines and her team visit annually during the summer to train each of them individually. They take back what they've learned to their communities and teach it to their people, becoming the health care provider for their village. The leaders are selected by their community based on their prominent status. Some are school teachers, some are church leaders, and interestingly, most leaders selected are women.

"The curriculum has really progressed to things like diabetes education, and this year we taught CPR and family planning," Hines said. "They have a lot of birth defects in Guatemala because they don't have easy access to health care since they are surrounded by volcanoes. It takes the people about 45 minutes to get down the hills so most babies are born on the hillsides of these volcanoes, making the death rate extremely high, about one

in every four babies born survive. So we bring them educational materials and teach it to them, as well as provide them supplies that will last for a year until we come back. The health care structure we've formed there sustains itself until we return."

The unique approach Purpose Medical Mission takes with education and communication helps prevent a lot of hostility.

"There's obviously issues when a country comes in to help another," Hines said. "Our approach is to let them tell us what they would like to learn or need more help with. The surrounding villages choose the leaders that will learn from us, which helps give the people more liberty. The clinic in Guatemala is on a Mayan reservation built by Guatemala Sana, our partner organization founded by Dr. Rafeal Espada, retired cardiothoracic surgeon in Houston and former vice president of Guatemala. The clinic was initially viewed as a foreign entity, so many villagers were resistant to visit it for care. We came in and built the bridge between the clinic and the people, exactly as we did in Cameroon."

Atabong agreed.

"The first thing we do when expanding our mission to another country or area is to sit down with the people and ask them what their needs are and what resources they have to accomplish those needs," he said. "We let them tell us what they would like help with, instead of coming in with our own judgments and deciding what they need without their input. We want them to take care of themselves and they won't do that if we attempt to control them with no understanding of who they are and what their culture means to them."

And they have proof their approach works. The clinic in Guatemala saw 120 patients per year before Purpose Medical Mission got involved. Now, three years later, the bridge was built and the clinic now sees around 4,900 patients per year. Cameroon's clinic sees 5,000 patients per year.



Two women wait for care outside the hospital.



Atabong with his father, John.

“Seeds were planted in my life to show me love and life has no meaning if I don’t do my own planting.”

## THE PURPOSE

Atabong and his colleagues all agree that Purpose Medical Mission is bigger than one person.

“I didn’t see this happening eight years ago when I initially began making plans, but I think that’s the point,” Atabong said. “My purpose and our purpose as individuals should be to serve others in any capacity we can. The name says medical mission, but it’s really a service mission.”


Deeb affirmed this statement.

“This has blossomed into something very big that involves a lot of people who spend multiple hours on multiple levels to make this mission possible. Another unique aspect of our organization is that there isn’t a paid staff. We are 100 percent volunteer based, so all the donations we receive go toward the cause.”

The organization is getting invited to more and more countries to spread their unique approach to sustainable health care.

“We can’t dream big enough,” Hines said. “We say every year that when we think we’ve dreamed all we can dream, something else comes along. For example, we may be expanding to Congo soon, assuming it’s a good fit for our purpose.”

Atabong’s wish is to give people a gift: their purpose in life and the ability to apply it in everyday living.

“So why do I do what I do?” Atabong asks. “Because God put so many people in my life to show me the direction to carry out my purpose. Seeds were planted in my life to show me love and life has no meaning if I don’t do my own planting. I can’t explain why I came out of this tiny village in Africa and ended up in Lubbock, Texas, with all of my circumstances, other than to say it was to achieve and carry out my purpose. So not only do I feel called to return to my home country and give back, I feel called to give everywhere I can. To give others a little push like I was given and provide true service to those who haven’t found their cause yet, which is why Purpose Medical Mission was established and why it succeeds.” 

For additional photos and information about Purpose Medical Mission, visit our website: [www.ttuhsu.edu/communications/pulse](http://www.ttuhsu.edu/communications/pulse)



# DEEP IN THE HEART *of Texas*

## RURAL HEALTH CARE PROVIDERS FACED WITH CHALLENGES AND OPPORTUNITIES

For miles and miles across this state, a dusty boot can leave a footprint in a cotton field, oil field or on a wind farm. Perhaps the boot crunches pine needles or walks among the vegetable farms of the valley. The land stretches in all directions, sharing sunrises and sunsets with the occasional house, irrigation system or tractor in the fields. Smaller towns and cities dot the landscape, providing commerce, health and entertainment.

This is the land of rural Texas. The United States Census Bureau classifies most of Texas as rural; however, it is home to less than 20 percent of the state's population. For many, it is land handed down through a family's generations. For others, it is just where they choose to live. It can mean a slower pace of living, lower crime rates, smaller schools and fewer retail opportunities. And in the world of health care, rural living provides unique challenges and opportunities.



BY JO GRANT  
PHOTOS BY NEAL HINKLE

## CHALLENGES

According to Rural Healthy People 2010, a companion report to Healthy People 2010 from the U.S. Department of Health and Human Services, rural America faces many of the health care challenges of its urban neighbor with the addition of extensive geographic distances, sparse population and cultural differences. Those challenges include:

- Lower paid workforces reliant upon smaller employers, resulting in less access to insurance. The percentage of uninsured people 65 or older is higher in rural areas.
- Less access to primary care, especially obstetrics, pediatrics and emergency health services.
- Prevalence of heart failure, shock, diabetes and mental health disorders.
- Disproportionate amount of tobacco use. Substance abuse and drinking while driving are also concerns, as well as maternal and child health, nutrition and obesity. Delays in screening and geographic barriers to treatment create problems for cancer patients.

Access to health care is a major concern. According to the Kaiser Family Foundation, a leading nonprofit organization focusing on national health issues, 52 Texas counties are considered rural with 64 labeled frontier, having less than seven people per square mile. These areas have 65 critical access hospitals with less than 25 beds each. Fifteen counties have never had a primary care physician.

A shortage of physicians underscores most of these challenges, a need overshadowing the access solution, said Lonnie Vickers, MD, (Resident '85, SOM '82) a family practice physician at Heart of Texas Hospital in Brady, Texas.

“In Brady and in many rural areas, we are seeing the use of more nurse practitioners and physician assistants,” he said. “However, we must have physicians to monitor these providers. They are trained to meet a broad range of health care needs, but a physician must oversee that care. Rural care doesn’t mean substandard care. We need more primary care physicians who can work with the mid-level providers to provide high quality care.”

Reimbursement, or paying for health care, continues to plague rural health care delivery. Traditionally, rural primary care physicians receive lower payments for the care they deliver, said Steven L. Berk, MD, TTUHSC executive vice president, provost and dean of the School of Medicine. “Physicians work really hard in our small towns and receive less money. Depending on school loan debt and lifestyle choices, physicians will many times choose urban medicine.”

These challenges require new solutions and ideas, changing the way health care is provided for the almost 4 million rural Texans. And for TTUHSC, this is a priority.



## PHYSICIAN TRAINING

Beginning with the Texas Legislature’s establishment of the Texas Tech School of Medicine in 1969, delivering care to West Texas counties is at the center of many programs and initiatives anchored on the TTUHSC campuses in Lubbock, Amarillo, Odessa, Midland and now Abilene. In signing the original bill creating the School of Medicine, the late Gov. Preston Smith paved the way for more physicians to be trained who would then, hopefully, remain in the area to provide care to vast areas without physicians.

Almost 40 years later, close to 60 percent of the School of Medicine graduates stay in Texas, Berk said, with a large percentage practicing primary care.

“We know that we are able to put our graduates into practice in Texas and we do well putting those graduates in underserved areas,” Berk said. “Our most recent report from the Association of American Medical Colleges shows primary care as the number one choice for residencies. That is good news for us.”

Augmenting the push for primary care is the Family Medicine Accelerated Track (FMAT), a three-year medical degree program pioneered at the School of Medicine in Lubbock. FMAT students complete their medical degree in three years instead of four and enter family practice residencies.

“We feel this is one of the best hopes for putting physicians into the rural health setting,” Berk said. “We recruit top-notch students with a passion for family medicine and give them incentives to move through their training at an accelerated rate. Not only will they begin their practices sooner, but they won’t incur the cost of the fourth year of medical school.”

A new rural medicine residency program began in July at the School of Medicine Department of Family and Community Medicine at the Permian Basin, providing training for resident physicians in rural settings. The new program will start with two residents on the Odessa campus, who will complete the last two years of training in either Fort Stockton or Alpine. Programs such as these are directly connected to statistics from the Association of American Medical Colleges citing that 62 percent of medical students/residents will return to a rural area if they trained in a rural area.



## MEETING THE CHALLENGES

LONNIE VICKERS, MD,  
(RESIDENT '85; SOM '82) BRADY, TEXAS

### Family Physician, Heart of Texas Hospital

Brady is a town of 5,000 people nestled in the Texas Bluebonnets and Indian Paintbrush of central Texas and is the home of Lonnie Vickers, MD, family practice physician and 20-year Brady resident. After graduating from the School of Medicine, Vickers spent time in Tahoka, Texas, and Del Norte, Colo., before settling in Brady. He is proud of his community and in particular, is proud of how Brady is meeting the challenges of modern-day rural health care.

At a time when rural hospitals are closing or drastically reducing services, the citizens of Brady took control of their destiny and built a new hospital, Heart of Texas Hospital.

“This was a leap of faith,” Vickers said. “We have three physicians and use mid-level providers to keep our health care options in our community viable. We have dialysis capabilities and offer emergency medicine, a stroke intervention program, MRI/CT, and digital images. We have many services for our population.”

For Vickers, this leap of faith is embedded in his passion for rural medicine.

“People in rural communities should receive the same quality of care as anyone else,” he said. “Here, I see the trust between my patients and me. We understand the whole concept of trust.”

Brady’s hospital enjoys a strong referral network, enabling Vickers and his colleagues to secure care for their patients not available locally.

“We could use more mental health, drug and alcohol rehabilitation and geriatric services, but our referral network helps fill those gaps,” said Vickers, who can’t see practicing medicine any other way.

“I wanted this close relationship I have with my patients,” he said. “For me, this goes back to the ideals of family medicine where we care for the whole family. I know my patients as people and they know me. I am a part of the community. I do get emotionally attached to my patients and that can be hard, but to me this is how medicine should be.”

TERESA CALLAHAN, FNP-C,  
(SON '02) IRAAN, TEXAS

### CEO, Iraan General Hospital

For almost 30 years, Teresa Callahan has served as a nurse and for the past 11 years as a nurse practitioner for patients of this small town near San Angelo, a town relying on the oil producing prospects of the Permian Basin. She admits it is getting harder.

“Reimbursement issues from insurance companies and governmental health programs are changing how I practice medicine,” Callahan said. “Many times, we are limited in what we can do because of what they will pay for and that can make things difficult for us. We have changed some of the ways we deliver care in Iraan, but are still working to provide the compassionate treatment our patients need.”

Some services are no longer available and the local emergency medical service is now a paid service rather than a volunteer program. The local emergency room can no longer handle some medical needs and those patients must be sent to other hospitals. In addition, as a nurse practitioner, Callahan needs physician oversight in treating her patients.

A “guardian angel” in the form of a physician coverage service helped solve many of the issues facing the hospital. Callahan now has physicians on contract who work flexible schedules, seeing patients in the hospital, clinic and emergency room. They work in Iraan General Hospital, a 58-year-old hospital that opened a new facility six years ago.

“This system is working well for us,” Callahan said. “Our physicians come from Austin or San Antonio and spend time in this community. Iraan is tied to the oil, wind and sunshine of this area and our community is largely young people. We are a safe community and prosperous, so the physicians enjoy their time here. It is good for all of us.”

## COMMUNITY TRAINING

Under the umbrella of the F. Marie Hall Institute for Rural and Community Health at TTUHSC, the Rural Research Group works to further community-driven scholarly research, working on topics of importance to rural Texas. Additionally, the institute sponsors the West Texas Area Health Education Center, a program to help young people learn more about health careers.

## ELECTRONIC MEDICAL RECORDS

One of the many changes facing rural health care is the adoption of electronic medical records (EMR). Billy Philips, Jr., executive vice president and director of the F. Marie Hall Institute for Rural and Community Health, feels the adoption of EMR is “transforming the rural health care landscape.”

“EMR will give our rural physicians the efficiency of technology,” Philips said. “It will change the nature of their work. They will no longer need to spend their free time charting or chasing down documents. They will easily be able to consult with specialty physicians in larger hospitals, many times using their smartphone as their computer. This not only is a financial incentive for these physicians, but the efficiency of the EMR will give them more time with their patients, which is what they want.”

JOSHUA MOORE, PHARM.D.,  
(SOP '04) TULIA, TEXAS

### Owner, Pharmacist-in-Charge; Moore Than Medicine

Joshua Moore grew up in Childress, Texas, and always dreamed of owning his own pharmacy. That dream is now a reality and one he shares with his wife, Christina (Kuper) Moore, Pharm.D (SOP '03). Moore serves a rural community with a successful track record in providing health care.

Moore cites Tulia's ability to maintain its hospital, Swisher Memorial Hospital, as the key to the town's success.

“Tulia continues to support the hospital and clinics, retaining the patients with high quality health care,” he said. “Our community is fortunate in that most of our patients have insurance of some sort and that has allowed the business side of our hospital to grow and stay current.”

He feels the one-on-one relationship is driving the community's health care success.

“Health care is good out here,” Moore said. “Our providers add a personal touch because we know our patients. Our physicians have lived here a long time. Our patients' basic needs are being taken care of and that is a testament to the solid foundation of our medical community in Tulia.”

VANESSA ARNWINE, PA-C,  
(SOAHS '10) SNYDER, TEXAS

### Physician Assistant, Cogdell Memorial Hospital

As a physician assistant at Cogdell Memorial Hospital, Vanessa Arnwine delights in providing care in her hometown.

“I grew up in Snyder,” she said. “My patients know me and probably know my parents or grandparents. I have a history with them I couldn't have if I practiced in a larger city.”

She doesn't see the challenges of few family practice physicians in Snyder, reporting that two more physicians are due to arrive soon.

“In Snyder, this model is working for us,” she said. “We see the whole scope of a person, from obstetrics to pediatrics to geriatrics. We have relationships with the people here.”

Arnwine is optimistic about the rural health care landscape in her town.

“We know some rural hospitals and clinics are closing,” she said, “but in Snyder, I don't feel this will be a problem. The history we have with our patients keeps us strong.”

MICHAEL SNEAD, STUDENT  
IN THE SECOND DEGREE BSN  
PROGRAM, UMBARGER, TEXAS

After earning a degree in art from West Texas A&M University and spending seven years working in the fast-food industry, Michael Snead felt a yearning to do something to help his neighbors. He tapped into a feeling from childhood that he should be a nurse. He applied to the School of Nursing, was accepted and plans to finish in August 2014. His dream placement is a small town in the Texas Panhandle.

“My wife and I live in Umbarger, a really small town of 150 people,” Snead said. “She grew up in Nazareth, and I grew up in Canyon. We knew we wanted to live in a small town. When I decided to return to nursing school, we knew we would stay.”

Snead enjoys living in a place where “people are always willing to help their fellow man.” He knew he wanted to live where he could contribute to the basic human needs of his neighbors.

“These are farmers and ranchers out here,” he said. “This is their life. I am not a rancher or a farmer, but as a nurse, I will be able contribute to this community.”

## PAYMENTS

Philips readily admits that paying for health care is a challenge. The future will include “bundled” payments, covering preventive medicine more than episodic care, which is the current model. He sees a solution if people can make some lifestyle changes.

“We must begin to take responsibility for our lifestyle choices regarding our health care,” Philips said. “Physicians are teachers at heart and we must let them teach us about health. Our lifestyles, many times, provide challenges for our health. We are seeing communities, such as Muleshoe, Texas, that are banding together to fight health issues, obesity in this example. People are learning that the responsibility for good health goes beyond the physician.”

The infrastructure of rural medicine can be complicated and risky.

“Our rural hospitals and clinics operate on a razor-thin margin,” Philips said. “One bad patient episode can break a hospital, especially if that patient had little or no insurance.”

Governmental programs, local hospital districts and health sciences centers across the state are working to find ways to keep the rural health care climate solid. Some will still fail, Philips said.

“At TTUHSC, we are working hard to help our rural communities,” he said. “We are partners to help them stay in business. Past experience tells us that when a rural hospital fails, the community is at risk as well.”

Berk is somewhat optimistic about the trends he sees to shift payments away from fee-for-service, which is currently in place, to more emphasis on taking care of the whole patient.

“I see this shift as good and possibly a way to even up the disparity between payments for physicians in rural and urban areas,” he said.

## TELEMEDICINE

Telemedicine is the use of medical technology to connect rural, isolated communities to the health care practitioners in larger communities. Patients are “seen” in a videoconference with a practitioner in larger communities.

Currently, 22 of the 108 counties in the TTUHSC service area do not have a practicing physician and 12 do not have a physician, nurse practitioner or physician’s assistant. Many patients travel at least 90 miles one way for primary care. Telemedicine reduces distance and isolation, enabling patients to connect with providers miles away.


Telemedicine’s two component patient service arenas at TTUHSC, Rural Telemedicine and Correctional Telemedicine, provide service throughout the region. Through videoconferencing, patients are connected with health care providers hundreds of miles away. Through the month of June in fiscal year 2013, 348 community patients and 8001 correctional patients were seen, saving more than 200,000 road miles.

However, telemedicine does have limits.

“Some are not accustomed to this technology, so it is hard to use it effectively,” Philips said. “Our patients and practitioners are learning more, but sometimes it isn’t a good fit. We have found it works great for follow-up burn care, care inside our correctional health facilities, psychiatric care in schools, care for abused children and in the management of high-risk pregnancies. The future will see telemedicine used more.”

Though rural health experiences obstacles to care and reimbursement, the health care providers in rural communities remain passionate about delivering quality, compassionate care to their neighbors. They have accepted the challenges rural health affords and discovered ways to continue walking down the path toward their patients.

## BACK ON THE ROAD

For these miles and miles across Texas, the dusty boot travels, passing the symbols of this area — windmills, farm and ranch fields, pump jacks, mesquite trees, and people who work and live on the land. But, these footsteps also pass communities and health care providers working together to keep health care options viable. A dedication to rural living keeps rural Texans committed to their land and homes, touching the heart and hands of physicians, nurses, pharmacists and mid-level providers. Their compassion and the determination of their communities keeps a high level of health care alive and well for thousands of Texans. 





# Rattlin' Tradition By Kara Bishop

People generally associate pharmacists with filling prescriptions, not as experts of rattlesnake bites and antivenom vaccines.

Brent Fox, PharmD, (SOP '00) is a former Distinguished Alumni Award recipient for a reason. His interest in the medical field began in high school, and he logged countless volunteer hours at Palo Pinto General Hospital in Mineral Wells, Texas.

"I had the opportunity to go into a couple of medical professions, but pharmacy really stood out to me," Fox said. "I liked the fact that I wasn't going to be limited to one specific area in pharmacy. Most people think of retail when thinking about pharmacy, but I knew I could do more in the field than that."

His interest began revolving around toxicology in college, which, unbeknownst to him, would pay off in the future. In 2001, a new antivenom product, CroFab, came on the scene for snakebite victims. Prior to this, an older antivenom product, Antivenin Crotalidae Polyvalent, had been in existence since the 1950s, which led to confusion for health care professionals on the differences between the two and the benefits of the new product. Fox decided to step in.

"In the beginning what peaked my interest, besides it being something out of the norm for my career, was that it was a huge cost-saving enterprise for our hospital and department," Fox said. "When CroFab initially came out it was extremely expensive and really continues to be so today. However, it was becoming even more expensive due to waste and inappropriate use, so someone needed to become an expert on this new antivenom product and help others use it in the best economic way. I decided that would be me."

Fox began studying the new antivenom product and gave presentations to the employees of Texas Health Harris Hospital in Fort Worth where he was employed. [At press time, he had just accepted a new position with John Peter Smith Hospital in Fort Worth.] He even used live snakes in his demonstrations — they were caged, of course.

One of the main benefits of the new antivenom product, is it eliminates the portion of the antibody that was causing all of the bad reactions and problems for patients with the Antivenin Crotalidae Polyvalent product.

"To manufacture Antivenin Crotalidae Polyvalent, non-lethal amounts of venom were actually injected into horses and then those horses developed an immune response to that venom; therefore, creating antibodies," Fox said. "These antibodies were preprogrammed by the body to attack and eliminate detrimental effects of the snake venom. Unfortunately, these antibodies could sometimes cause negative, serious reactions that are just as bad as the original bite. With the old antivenom you had to have a really severe or potentially life-threatening snakebite to receive it.

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## 2013 Distinguished Alumni Recipients Named

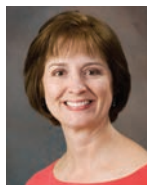
### School of Allied Health Sciences



**DEPARTMENT OF CLINIC ADMINISTRATION AND REHABILITATION COUNSELING AWARD** Larry K. Phillippe, EDD, MSRC, ('06, Rehabilitation Counseling) is the managing director for Student Disability Services at Texas Tech. During his tenure as director of Student Disability Services, Phillippe has built a program for students with disabilities that earned the school a national reputation as a leader in comprehensive services for students with disabilities, earning recognition from the National Association of College Academic Advisors and the Dallas branch of the International Dyslexia Association.



**DEPARTMENT OF LABORATORY SCIENCES AND PRIMARY CARE AWARD** Ericka Hendrix, MSMP, ('03, Molecular Pathology) is the program director for the Molecular Pathology graduate program. Further, she was integral in the development of the College of American Pathology-accredited TTUHSC Laboratory for Molecular Diagnostics, for which she continues to serve as manager and technical supervisor. Her impact on the field is evident from her invited service with national organizations such as the Association for Molecular Pathology, the American Society for Clinical Pathology and the Association of Genetic Technologists.



**DEPARTMENT OF SPEECH, LANGUAGE AND HEARING SCIENCES AWARD** Melinda Corwin, PhD, ('89, '87, Speech and Hearing Sciences) has made a significant impact on the lives of stroke survivors and their families through the STroke/Aphasia Recovery (STAR) program and the Caregivers Network, which she developed and has directed since 1998. The program has evolved from just a small handful of stroke survivors meeting weekly to a program serving more than 70 persons. Over the past 15 years, Corwin's work with the STAR program has been publicly recognized in state and national venues.



**DEPARTMENT OF REHABILITATION SCIENCES AWARD** Misty Miller, PT, DPT, ('11, '97, Physical Therapy) has worked at Baptist St. Anthony's Health System since 1997 where she has excelled at providing direct patient care. She currently serves as the manager of Inpatient Therapy Services and is responsible for the daily operations of the acute care and inpatient rehabilitation therapy departments. Miller has provided significant service in the American Physical Therapy Association and the Texas Physical Therapy Association.

### School of Nursing



**LEADERSHIP IN HEALTH CARE AWARD** Gerald Bryant, DNP, RN, NEA-BC, ('12, Doctorate in Nursing Practice, Executive Leadership) served as chief nursing officer for Baptist Hospitals for Southeast Texas for several years and was recently promoted to the role of chief operating officer because of his exemplary focus on quality care and effective and efficient operations throughout the hospital system. Bryant is one of the few nurses in health care to rise to the COO position.



**EXCELLENCE IN CLINICAL CARE AWARD** Capt. Paul Lascuna, FNP-BC, AN, ('11, MSN) is serving in the United States Army as a family nurse practitioner in the Family Residency Medical clinic at Womack Army Medical Center in Fort Bragg, N.C., where he provides excellent clinical care and has had numerous awards for his superiority in clinical care. He has implemented the Patient Caring Touch System, which involves implementation of core values and measurement of metrics to promote improved patient outcomes for soldiers and their families in the U.S. Army.



**COMMUNITY OUTREACH AWARD** Jamie Dudensing, MPA, ('00, BSN) has assumed a major leadership role in health care for Texas as the policy director in the Office of the Lieutenant Governor as of 2013. In her new role, Dudensing currently oversees the entire policy agenda and its respective senior advisors. Prior to this, Dudensing served as the Capitol Nurse beginning in 2001. She was inspired to become more involved with the development of health policy and completed a master's degree in public affairs at the Lyndon B. Johnson School of Public Affairs at the University of Texas in Austin.

### School of Pharmacy



**EXCELLENCE IN PHARMACY PRACTICE** Brandy McGinnis, PharmD, ('04, Doctorate of Pharmacy) recently joined Seton Medical Center Austin as pharmacy clinical coordinator. In this position she provides leadership and strategic direction for Seton Medical Center Austin's clinical pharmacy services, including staff development, collaboration with the medical and nursing staff, and assists with departmental initiatives and goals. She is currently a member of the American College of Clinical Pharmacy and American Society of Professionals in Patient Safety.

## School of Medicine



**DISTINGUISHED ALUMNI** Jose Manuel de la Rosa, MD, (Resident '87; '84, Medicine) has served as the founding dean of the Paul L. Foster School of Medicine since 1997 [his appointment ended in July] and currently serves as the vice president for Health Affairs for TTUHSC at El Paso. De la Rosa's dedication led to the Paul L. Foster School of Medicine receiving its LCME accreditation on Feb. 6, 2008. This milestone brought the full resources of both a medical school and a health sciences center enterprise to the community.



**COMMUNITY OUTREACH** Barbara Bergin, MD, (Resident '86; '81, Medicine) met two fellow residents in El Paso while completing her residency and the three of them decided to head to Austin to start Texas Orthopedics, Sports and Rehabilitation Associates. Now, 28 years later, with 24 orthopedic surgeons, in addition to a rheumatologist and two physical medicine and rehabilitation physicians, it is the largest orthopedic group in Austin and the second largest orthopedic group in Texas. Bergin has cared for thousands of patients and has been an exceptional mentor and role model for the entire practice and community.

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"Fortunately, CroFab has been developed and generates very little to no adverse reactions."

Technology and knowledge has advanced to the point that the new antivenom was created with a fragment of an antibody or a FAB. The FC portion of the antibody — the portion that caused problems for patients — has been removed from this new antivenom, making it safer to administer to patients with snakebites.

Fox's knowledge of this new antivenom actually made television when reality show star Jackie Bibby from Rattlesnake Republic was bitten during a stunt.

"I saw that he had been bitten on the evening news at the Omni Hotel in Fort Worth and I thought, 'Wonder if I'll see that guy in the morning,'" Fox said. "Sure enough, when I walked in, he was one of my first patients to see about."

Bibby decided that his treatment would be a great segment for the show, so they reenacted his hospital days and interviewed Fox on snakebites and venom.

"It was a fun experience and definitely outside the norm of my day-to-day duties," Fox said.

The most challenging part of Fox's job is correcting misconceptions of snakebites and treatment.

"There are times when I have to reconstruct the public's thinking based on myths or common misunderstandings that have been passed down from various groups," he said. "That takes the most

## Graduate School of Biomedical Sciences



Li-Na Wei, PhD, ('86, Medical Microbiology) is a professor in the Department of Pharmacology at the University of Minnesota Medical School in Minneapolis and holds the Distinguished McNight University Professorship. Wei is the principal investigator for five research studies funded by the National Institutes of Health, two of which have been funded for more than 10 years each. Wei also has more than 150 published articles and book chapters.


*Fox answers questions and provides information regarding antivenom for the Rattlesnake Republic camera crew. The episode aired November 2012.*



time and then I have to reteach on proper treatment. For example, most feel the need to put a tourniquet on a victim or suck the venom out, which can actually do more harm than good, so I appreciated the exposure on the show to address some of those issues."

People often ask Fox if he sees many snakebite victims since it's not as common as other issues.

"Texas claims more than 1,500 snakebite victims a year," Fox said. "Which is a pretty substantial amount. However, even if it was just one person a year, you still want to have treatment knowledge as a health care professional, because even losing one person due to ignorance is not acceptable."

Fox's work over the past 14 years illustrates his passion for the well-being of others. And thankfully, if someone has an unusual case of a snakebite, they'll be in good hands if they visit him. 



**1** School of Medicine alumni gather for a social in Abilene. **2** TTUHSC medical students celebrate Match Day as they receive notice of where they will serve their residencies. **3** Nurse practitioner professionals gather at the 2014 Nurse Practitioner Alumni and Preceptor reception. **4** Faculty, administrators, staff and students thank School of Nursing contributors for their continued support at the School of Nursing Donor Appreciation Luncheon. **5** Faculty, administrators, staff and students thank those who have supported the School of Medicine for their continued generosity at the School of Medicine Donor Appreciation Luncheon.

# friends we'll miss

Carla Jean Lamb Degges-Payne, DNP, (SON '12) died May 28, 2013.

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Joshua Gaines, MD, (SOM '13) died July 17, 2014.

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Stephanie House, a student in the School of Allied Health Sciences Rehabilitation Counseling Program, died Feb. 27, 2014.

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Eugene Luckstead, MD, TTUHSC professor of pediatrics, died Dec. 17, 2013. The Dr. Eugene F. Luckstead, Sr. Memorial Fund at TTUHSC has been established in his honor.

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Jim "Major" Majorowski, emergency medical services instructor, died Feb. 2, 2014.

Dan Morton, MD, (SOM '74) died April 6, 2014.

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Haley Singer, MS, (SOAHS '12, '10) died May 28, 2014.

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E.W. Williams died May 3, 2014. He served on the Texas Tech Foundation and was a member of the Matador Society and the Amarillo Hospital District's Board of Managers. Memorials in his honor can be made to the Mary Anne and E.W. Williams, Jr. Endowment for Parkinson's Disease Research at TTUHSC.

*Gifts in memory of or in honor of are routed to the desired location of the donor through the TTUHSC Office of Institutional Advancement, 3601 Fourth Street, Stop 6238, Lubbock, Texas 79430.*

## Brent Hester, MP

Forensic DNA Specialist

Lubbock Department of Public Safety Crime Lab, Lubbock, Texas

**Graduate:** 2003, Molecular Pathology

**Reality versus TV:** If you're looking for someone to discuss last night's CSI episode with, then Brent Hester is not your man. As a forensic DNA specialist at the Texas Department of Public Safety Crime Lab, Hester knows a thing or two about forensic science, and he knows enough to see through the holes in the TV drama. "The only exposure that most people have to the science is what they see on TV or in movies where it is usually exaggerated," Hester said. "I take every opportunity to correct the misconceptions."

**Evidence of Success:** As a 10-year veteran at the Lubbock DPS, Hester has worked on approximately 2,000 cases. For the majority of his career, he served as a forensic serologist/DNA analyst. His job was to screen through the genetic evidence (primarily blood and semen), compare genetic profiles obtained from the evidence, then compile a report using statistical methods. Now, as a forensic DNA specialist, he also trains new DNA analysts and helps validate new techniques and instrumentation. It's a job he enjoys because he finds the work to be very rewarding, especially when cases present a surprising clue. "For me, the best part of the job is when I find something useful for a case when I was not expecting to," he said. "I've been fortunate to have my work be instrumental in solving two cold case homicides in Lubbock."

**Office Space:** Hester's work extends beyond the Lubbock city limits. The DPS lab processes DNA evidence for 76 counties in the Panhandle and West Texas. Thanks to new facilities completed at the end of 2013, the Lubbock DPS now has more evidence storage space as well as more lab space for their analysts. Over the last 10 years, Hester said he has enjoyed watching robotics and technology advancements make the impossible possible, and he is excited to continue using those new techniques in the improved Lubbock DPS building. "I hope to continue to educate people in how forensic DNA analysis can be used for law enforcement," he said. "I also look forward to seeing how the field will continue to evolve in the future."

—Holly Leger





## Jennifer Johnson, MD

Sports Medicine Physician

Texas Sport and Spine, Abilene, Texas

**Graduate:** 2008, Sports Medicine

**Childhood dream:** Jennifer Johnson, MD, had always appreciated science and found it interesting. She discovered that medicine allowed her to access her brainy side while also utilizing her compassionate nature.

**Choosing TTUHSC:** Johnson said it was the reputation of the medical school that brought her to TTUHSC, "From the first meeting, faculty and staff were so welcoming, and TTUHSC was the most fun I've had by far in receiving an education."

**An unexpected path:** She had never planned on going into sports medicine; however, during a two-week rotation in her second year of residency, Johnson enjoyed the specialty so much she decided to pursue it as her career.

**All about sports:** She completed a sports medicine fellowship where she provided event coverage for professional teams including the San Antonio Spurs, WNBA San Antonio Silver Stars and Ballet San Antonio. Although she now treats athletes in the office, Johnson continues to provide health care coverage at sporting events. Most are high school and college football and basketball games, but she also covers two local roller derby teams.

**Family life:** Johnson and her husband always wanted to settle down in a small West Texas town, especially since she grew up in Sweetwater, Texas. She is comforted that their six-month old baby girl is growing up in a small-town environment in Abilene.

"My family and I are excited to be settling down in a place where the people are friendly, rush hour lasts five minutes and the sunsets are always beautiful," she said.

**The most rewarding part of the job:** Taking care of a variety of patients — from a college football player to a 90-year-old with arthritis.

"It is incredibly rewarding to help people with pain," she said. "I help get them back to living their lives to the fullest."

—Laura Ray

## Wyatt McMahon, PhD

Faculty Research Associate

Ludwig Center at Johns Hopkins University, Baltimore, Md.

**Graduate:** 2007, Cell and Molecular Biology

**Overcoming the odds:** While working at the Virginia Bioinformatics Institute, McMahon was diagnosed with a malignant brain tumor. He had surgery, went through chemotherapy and radiation, and is now in remission. This experience just led to an even deeper passion for cancer research.

"I absolutely feel more connected to my work having gone through cancer myself," he said. "One benefit of being a cancer patient is the different perspective I can bring to the doctors I work with. I'm able to help them improve drugs and patient service since I've been in cancer patients' shoes."

**The dream job:** After cancer treatment, McMahon began thinking about what he seriously wanted to do in life career-wise. He spontaneously emailed famous cancer researcher, Bert Vogelstein, MD, director of the Ludwig Center, who is credited for discovering that cancer is a disease of genes; and said he would be interested in working with him. Long story short, McMahon began working with Vogelstein and his direct supervisor, Kenneth W. Kinzler, PhD, at the Ludwig Center last year.

**What he believes:** McMahon had some advice for his fellow alumni.

"There are a lot of people that will tell you that your dreams are not attainable, which is simply not true," he said. "It sometimes takes some finagling, it sometimes takes getting brain cancer, but you can actually have what you really want. It's also incredibly important to have a good support system, which has been my wife, Enusha Karunasena, PhD, (GSBS '05). Without her, I wouldn't have been able to finish graduate school, survive brain cancer or obtain my dream job."

—Kara Bishop





### LCDR Janice Arceneaux, DNP, RN, CMSRN

United States Public Health Services Officer, Public Health Analyst  
Centers of Medicare and Medicaid Services, Richardson, Texas

**Graduate:** 2012, Executive Leadership

**Where it Started:** When Janice Arceneaux was 12 years old, her father suffered his first heart attack. As the second of six children, Arceneaux was accustomed to taking care of her younger siblings, especially when her father was ill. However, while watching her father recover in the hospital, Arceneaux had an even stronger urge to take care of him. "I didn't think he received the level of care he should have," Arceneaux said, "so I promised myself that I would go into nursing and treat every patient as if they were my parent."

**Serving More than Patients:** Arceneaux's passion for care helped her work her way through eight years in the Army, which included deployment to Desert Storm, Panama and Honduras. "I think my Army time has afforded me great opportunities and benefits," she said. Since her enlistment, Arceneaux has received various degrees, worked as a nurse and educator, and is currently pursuing her nurse practitioner certificate through the School of Nursing.

**Making a difference:** Now, as a public health officer for the Centers of Medicare and Medicaid Services, she uses her acquired nursing knowledge and experience to review and oversee the Medicaid and CHIP programs for five states in the Region VI area, including Arkansas, Louisiana, Oklahoma, New Mexico and Texas. With the recent health care reform, Arceneaux said she receives letters and emails almost daily from beneficiaries who have questions. She said she enjoys helping people through education. "I love that I'm able to ensure that beneficiaries receive quality care and services from the state and federal governments," she said. "Because if you know better, you do better."

—Holly Leger



## Monica Calderon, PharmD, BCPS

Safety Evaluator

Food and Drug Administration, Silver Spring, Md.

**Graduate:** 2008, Pharmacy

**The path less traveled:** Monica Calderon's interest in helping patients with HIV began in college. "I actually had a friend who became HIV positive while I was in school," she said. "He was going through a lot at the time and was having trouble controlling his virus, so I began shifting my focus to helping him and others with this virus."

Calderon's goal was to focus her career on HIV and to work for the National Institutes of Health (NIH). She accomplished both when she began working for the NIH as an HIV specialist. She was the HIV medication educator within the clinic and would counsel patients on the importance of taking their medications and what to expect with the drugs they had been prescribed. She also worked with physicians to change HIV medication regimens if they no longer worked for HIV patients.

**Moving forward:** While she loved her job at the NIH, she knew she didn't want to stay on the clinical side for her entire career. "I wanted to move over to a reviewer position, and the FDA has many opportunities for pharmacists," she said. "I'm now covering antiviral products within my division."

Calderon works specifically for the FDA Division of Medication Error Prevention and Analysis and reviews labeling, brand names and container labels to ensure no error is made on the clinical side when prescribing and filling a drug for a patient.

**Winning the prize:** Calderon had some advice to share with students and alumni.

"I think it's important to review all of your options when choosing a career," she said. "Question the status quo, because there are more opportunities to practice as a pharmacist than just the clinical or retail nature that most associate with the profession. If you know there's something you are interested in as a career, ask people and do your homework, because as out-of-reach as it may seem to you, opportunities exist in myriad forms."

—Kara Bishop



## Planning Research Growth

BY P. MICHAEL CONN, PHD

Since our founding in the late 1960's, TTUHSC has trained more than 10,000 health care professionals who meet the medical needs of about 1 percent of the U.S. population. That's an amazing statistic — we should be proud of our past!

In thinking about the university's future growth trajectory, I was reminded of the “rule of three,” which suggests that when things come in threes, they are intrinsically funnier, more satisfying and more effective than other numbers of things. (Think: little pigs, stooges, billy goats gruff, ingredients in a BLT, Columbus' ships and legs on a stool.)

We already excel at two of the “three legs of the stool” that constitute a first class academic research center: teaching and patient care. The third leg, research, is where we expect to make our greatest progress over the next five years.

The elements of a successful research enterprise are faculty, facilities and finances — notice the continuation of the “three” motif? We are setting on a path to get all three “F's” in alignment.

Under the leadership of Steven L. Berk, MD, executive vice president, provost and dean of the School of Medicine, we have recruited new basic science leadership, which will draw new faculty and present new and interactive research ideas. We also have engaged clinical science leadership who support improving and increasing research. Deans Quentin Smith, Robin Satterwhite and Michael Evans in pharmacy, allied health and nursing, respectively, are taking steps to increase their school's research portfolio, as well.

The faculty is engaging in a strategic planning exercise to identify areas of strengths and weaknesses that will help map a path to research excellence. We have had training courses on grant writing and grant administration and restructured the TTUHSC research website to make new opportunities more accessible.

We are rethinking how the institution facilitates the research of postdoctoral fellows and developing a better administrative structure for these vital research fellows. We are elevating our standards of performance by seeking clinical research accreditation from the Association for the Accreditation of Human Research Protection Programs Inc. — the gold standard for protection of human subjects.

If you walk through the halls on any of our TTUHSC campuses, you will see posters for new seminars, people talking about commercialization of their research discoveries, discussions of clinical-basic collaborations and new research directions. We are planning our space and research core needs.

There are new interactions, at all levels, between TTUHSC and Texas Tech, between researchers on all our campuses and among the various schools.

We are on the right path to research excellence. 

*P. Michael Conn, PhD, joined TTUHSC Dec. 1, 2013, as the new senior vice president for research and associate provost. He is also a professor in the School of Medicine's Department of Internal Medicine, with a joint appointment in the Department of Cell Biology and Biochemistry.*



Race and Shawna Ritchie are beyond thankful they still have two perfectly healthy children. However, there was a short time, just more than a year ago, when the fate of their then 3-year-old son, Rynden remained uncertain.

Jan. 31, 2013, was a typical weekday at the Ritchie's as Shawna juggled take-out dinner and children's schedules. That's when she noticed Rynden missing from the kitchen where she had left him about 10 minutes earlier. After a frantic search, Shawna found him floating face down in their backyard pool.

Because of the care given their son by a TTUHSC physician, the Ritchies wanted to give back. Their contributions to an endowment are opening doors for pediatric brain injury research.



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The Office of Alumni Relations announces the Building Futures campaign for the Legacy Plaza, a newly constructed area in front of the Preston Smith Library for the Health Sciences on the Lubbock campus. The plaza features a red and black brick walkway illuminated by stylized light posts and accented with wooden park benches.

Your gift to Building Futures will provide support for future alumni through TTUHSC endowed student scholarships. As a permanent tribute to your generosity, we will engrave your name on a brick to be placed on the walkway or on a plaque for a bench or light post.

For more information visit [www.ttuhscc.edu/alumni](http://www.ttuhscc.edu/alumni)