Hands-on Learning

UTA’s Smart Hospital is reshaping education with state-of-the-science patient simulators.
Valorie Andrews earned an exercise science degree at UT Arlington and decided to return to campus for a nursing degree. She’s scheduled to graduate in May. It’s been a busy year, including her pediatric rotation at Children’s Medical Center in Dallas. She saw the difference nurses made in the lives of patients. “My goal is to become a certified registered nurse anesthetist as well as get my Doctor of Nursing Practice,” Andrews says.

Kinesiology Associate Professor Cindy Trowbridge is researching the best ways to educate parents to recognize the signs of concussions.

Students are gaining confidence as they master health care practices and procedures using state-of-the-science patient simulators in UT Arlington’s Smart Hospital, a national demonstration center for simulation research.
A NEW ERA — a new magazine. I joined UT Arlington in August 2014 and shortly thereafter kinesiology and nursing combined to form the new College of Nursing and Health Innovation. The college’s mission is to be the focal point for the University’s strategic focus on health and the human condition. Our vision is to become the destination for those who wish to excel in research, education, and service that advance the human condition nationally and worldwide.

This is my third deanship. It is my favorite job throughout my varied career in education, government service, and numerous voluntary positions. This place is perfect for me—I thoroughly enjoy being dean. Our University is striving to become the model urban university. It is on the move! Creating new opportunities for discovery, education, and service is the hallmark of the college, and you will find some of the excitement on the pages that follow.

Both kinesiology and nursing are strong academic units with a total enrollment of more than 14,000 students—most are nursing students enrolled in online classes. We can be large because our faculty members never compromise quality in the expansion of programs. Our new nurses have pass rates on licensing exams that exceed the state and national averages, topping 90 percent, with a 90 percent-plus retention rate.

More than a thousand students are enrolled in our kinesiology program. Those taking exams to be certified as athletic trainers boast a remarkable 100 percent pass rate. Awesome!

I love to meet alumni and friends and will continue to be out and about seeking to meet you in person to tell the story of our college. Meanwhile, enjoy UT Arlington Health and get to know us better.

Anne R. Bavier, Ph.D., RN, FAAN
Dean, College of Nursing and Health Innovation

Enrollment grows to meet rising needs

Enrollment in UT Arlington’s College of Nursing and Health Innovation is surging as more students develop the skills required to meet employer demand and patient care needs.

The college is already the largest producer of baccalaureate-educated nurses in Texas and the largest not-for-profit college of nursing in the nation. Enrollment in undergraduate nursing programs jumped 118 percent from 3,925 to 8,557 between spring 2010 and spring 2015. Enrollment in graduate nursing programs is up 431 percent for the same period, rising from 595 to 3,162.

The increase comes as the health care industry works to meet the needs of aging Baby Boomers and provide preventive care to more people.

Research shows that registered nurses improve patient outcomes, says Beth Mancini, associate dean and chair of the Department of Undergraduate Nursing Programs, and that’s driving demand. She says many employers are encouraging and, in some cases, requiring their RNs with associate degrees to obtain a BSN.

“This is why we see so many nurses returning to programs such as ours,” Dr. Mancini says. “We provide high-quality, accessible, and affordable education.”

The nursing program’s graduates enjoy high success, with more than 90 percent passing their initial licensure exam on the first try. The college also gets top marks for increasing diversity. According to a report by Diverse Issues in Higher Education, UTA ranks third in the nation and highest in Texas for producing minority nurses with bachelor’s degrees.

In kinesiology, students enjoyed a 100 percent pass rate on the Texas Department of State Health Services Advisory Board of Athletic Trainers Licensing Exam, and 95 percent passed the National Board for Certification (BOC) Exam for Athletic Trainers (ATC credential) on the first try.

Coming this year is a new doctorate in kinesiology, a robust research degree that prepares individuals for scientific leadership in academic institutions.

The program shares courses with the Ph.D. in nursing, making it an innovative degree that has a strong interdisciplinary base.
A Show of Nerves
Research assesses nerve activity in multiple sclerosis patients

A UT Arlington kinesiology researcher and two colleagues made a major breakthrough while working to better understand blood pressure dysregulation and light-headedness associated with multiple sclerosis (MS).

Associate Professor David Keller, along with Scott Davis of Southern Methodist University and Paul Fidel of the University of Missouri, successfully measured sympathetic nerve fiber activity—a function previously unmeasurable in MS patients.

“We were the first to report direct recordings of the electrical activity of the sympathetic nerve fibers important for blood flow and blood pressure regulation,” Dr. Keller says. “We were able to systematically approach it in a way that others had not previously been successful in the past. We were the first to demonstrate it can be measured in this group. That was a big hurdle.”

“Reduced Spontaneous Sympathetic Nerve Activity in Multiple Sclerosis Patients” was published in the Journal of the Neurological Sciences in September 2014.

“What we show in our paper is that compared to healthy, age-matched control subjects, it appears there are marked differences in the activity of those nerves at rest in individuals with multiple sclerosis,” he says.

It’s similar to the way a wall thermostat maintains room temperatures by sending electrical signals to turn an air conditioner on and off. Using a technique called microneurography, Keller and his colleagues directly measured the electrical activity of nerves that signal blood vessels to constrict or relax.

“All three of us were able to combine forces and share our expertise and experience with the microneurographic technique,” Keller says. “We were able to systematically approach it in a way that others had not previously been successful in the past. We were the first to demonstrate it can be measured in this group. That was a big hurdle.”

“We were able to systematically approach it in a way that others had not previously been successful in the past. We were the first to demonstrate it can be measured in this group. That was a big hurdle.”

“In emergency situations, clear communication between medical personnel can determine whether a patient lives or dies.”

That’s why the College of Nursing and Health Innovation, Baylor Scott & White Health, and UT Dallas created GLIMPSE, a video-game simulation that teaches physicians and nurses to work more collaboratively by playing out tense situations in a virtual world.

GLIMPSE, or Game to Learn Important Methods of Patient Safety Enhancement, offers situational learning and perspective sharing through audio, video, and 3-D virtual gameplay.

To build it, researchers gathered feedback about positive and negative workplace interactions, and perspective sharing through audio, video, and 3-D virtual gameplay.

“Building the simulation required collaboration between researchers and players,” Dr. Mancini says. “It’s a great opportunity to reach out and work with colleagues in other countries.” She says the partnership helps other countries develop a more qualified workforce and contributes to improving patient outcomes. Dr. Mancini says the simulation requires collaboration between researchers and players.

“It’s a great opportunity to reach out and work with colleagues in other countries,” she says.

Upon completion, the students complete a certificate showing they have expertise in critical public health issues. Dr. Trevino says the partnership helps other countries develop a more qualified workforce and contributes to improving patient outcomes while helping UT faculty better understand other cultures and public health systems.
### Comparing Classes

**Study examines differences in online and on-campus master’s degree programs**

How do online and on-campus educational experiences compare? Does one offer a better learning environment? Is one more stressful? These are just some of the questions Assistant Professor Ronda Mintz-Binder hopes to answer in her research of online versus on-campus nursing master’s degree programs. The multiyear study received two grants from the Dallas-based education company Academic Partnerships LLC.

“Online students have very intense expectations to meet, as their classes are condensed from the traditional 15-week schedule to a five-week one,” Dr. Mintz-Binder explains. “We’re trying to understand what we can do to help them stay in the program once they have committed.”

For the first part of the study, the graduate students took an online survey focused mainly on their perceived stress and sense of belonging. A year later, Mintz-Binder followed up with the same group to gather additional information about how changes in their lives—like job status or family matters—may have affected their schooling.

Results indicate that stress and sense of belonging are inversely related: When stress is low, belonging is high. In addition, students who did not receive strong grades reported the most perceived stress, and scores were more consistent overall for the 15-week semester students.

“Throughout the country, nurses are being encouraged and supported, sometimes financially, by their employers to seek a graduate degree and expand their roles,” says Jennifer Gray, associate dean of the College of Nursing and Health Innovation. “To get the best return on the investments of students, employers, and nursing programs, we must do everything we can to guarantee success,” she says. “Dr. Mintz-Binder’s research results will help with that endeavor.”

### Before the Fall

**Laboratory helps reduce risk of falls in older adults**

The World Health Organization cites falls as the number one cause of accidental deaths in senior adults, and a previous fall is the greatest indicator of a future one.

“People who fall are two to three times more likely to fall again within a year,” says Christopher Ray, associate dean for research in the College of Nursing and Health Innovation and director of UT Arlington’s Postural Control Laboratory, which has been helping senior adults prevent falls since 2008.

Dr. Ray and his team of students and research assistants do pre- and post-intervention measurements of participants to assess postural control, gait, fracture risk, and fitness—all factors in falls.

Evaluations may include fitness tests, bone density measurements, and assessments with computerized dynamic posturography, which uses a platform with three walls around it to simulate different cognitive and environmental changes as a participant stands. Results are compared to normative data of other seniors from the literature.

“After the initial assessment, Ray and his colleagues look at how interventions can remodel any less-than-ideal function. Participants also are invited to the lab’s exercise classes to continue working on fall prevention, and Ray documents their progress. About 100 people participate in the classes, held every Monday, Wednesday, and Friday throughout the semester.”

In addition to exploring acute issues such as whether a specific intervention is better at improving a variable than another intervention—the lab can ask broader research questions that look at longitudinal change. Many participants have been coming to the lab for several years, allowing researchers to build a database looking at functional decline, the effects of exercise, and maintenance of independent lifestyle.

Ray is writing a grant for a study on day-to-day gait variability in older adults to better understand home-based gait monitoring for clinical interfaces with health centers and doctors. The goal is to catch people at earlier stages of functional decline.

“The earlier we can detect a problem and the earlier we can engage a clinical remedy allows us to preserve as much function as possible,” he says.

### New study examines clinical hours in nursing education

The College of Nursing and Health Innovation has been awarded a $1.8 million grant from the Texas Higher Education Coordinating Board to lead a multi-institution study of clinical experience requirements for nursing school graduates. Research will involve more than 3,600 students over 30 months. In the end, the results will lead to a better understanding of the amount and nature of clinical experiences needed to have competency at graduation.

Partners in the program include Tarleton State University, El Centro College, Brookhaven College, the Dallas-Fort Worth Hospital Council Foundation, and six North Texas health care systems.

Currently, there is no state requirement addressing clinical experiences for nursing students. “With this information, it will be possible to identify an optimal range of clinical hours resulting in more efficient and effective nursing education,” says Beth Mancrik, associate dean for undergraduate studies and a lead investigator on the grant.
New Life, New Calling

Nurses made all the difference in caring for her newborn niece

Her niece weighed less than 2 pounds at birth, and her survival seemed precarious. Each time Maria Moreno-Quiñones visited the tiny new family member in the neonatal intensive care unit, she was struck by the care and competency of the nurses.

It was their dedicated service, not just to her niece, but to her whole family that inspired Moreno-Quiñones to return to school after a 10-year hiatus and pursue a nursing degree.

“I knew that I wanted to be just that: a professional who is in a position to provide such great joy while also being a source of strength,” she says.

Now a senior, Moreno-Quiñones is an active member of the Hispanic Student Nursing Association, where she has served on the executive board. Most recently, she earned a scholarship to attend the National Association of Hispanic Nurses conference.

“For months, he and 20,000 children walked until they reached Ethiopia. Many died along the way. After four years, war broke out, and the children fled again. The survivors, about 10,000, eventually reached a refugee camp in Kenya. “I was thinking that was the end of my life,” says Deng, who was then about 14. “We had nowhere to go.”

In 2010, the international community began accepting the Lost Boys of Sudan and Deng came to the United States, earning a kinesiology degree from UT Arlington in 2013.

Lost Boy combines kinesiology and nursing

Members of UTA’s housing Condominium Council volunteered to build homes for Habitat for Humanity in September. The council is a branch of student government that serves as a liaison between housing students and faculty.

Peter Deng was 9 and living in southern Sudan when his life changed forever. It was 1987 and the civil war had reached his village, forcing him and other boys to flee or face death or induction into the army.

The v-BSN program is a “gold mine” for military personnel, she says. “We've always wanted someone to appreciate our experiences — to just acknowledge the hard work, the training, and the level of responsibility we had in the military. This gives us a transition and something to look forward to.”

Helping Veterans Program offers flexibility and support for military members looking to transition to civilian job opportunities

The new Veterans’ Bachelor of Science in Nursing program is opening doors for former military members looking to advance their nursing careers.

The first class began the 15-month v-BSN program in January 2014. Funding includes an almost $300,000 annual grant from the U.S. Department of Health and Human Services, announced in 2013. The program has admitted 16 veterans to date.

“The UT Arlington v-BSN program is achieving its goals of increasing the opportunities for veterans to translate their service experiences into civilian job opportunities, and it is helping us to better understand the unique needs of this important student population,” says Beth Mantini, associate dean in the College of Nursing and Health Innovation and principal investigator for the federal grant.

Cortez Sigler, retired Air Force, is part of the first cohort. She served as a military medic and EMT, and worked in labor and delivery, pediatrics, and internal medicine. But her military medical background didn’t easily translate to the civilian sector.

“It was kind of a downfall to have that level of experience and have to start all the way at the bottom. We just needed a hand up,” she says. “The v-BSN program is such an open door for us.”

The online program offers the flexibility Sigler needs to complete her BSN while working full time managing an infertility clinic at Texas Health Presbyterian Dallas. With her BSN in hand, she’ll have the opportunity to move into a director’s position.

“Cultural competency is key,” she says. “As nurses, we must gain our patients’ trust, and what better way to do that than through understanding who they are, from their values to their beliefs.”

University of Texas at Arlington is among the top 50 universities in the nation for earning a master’s degree in nursing, according to U.S. News & World Report’s Best Online Graduate Programs 2015 rankings. The College of Nursing and Health Innovation’s online program ranked No. 31 among 133 schools surveyed, up 34 spots from last year.

“This achievement underscores the commitment of extraordinary faculty and staff who continue to innovate and deliver exceptional curriculum to graduate students whether in the physical or virtual classroom,” says President Vivian R. French.

The online graduate nursing ranking is based on student engagement (10 percent), faculty credentials and training (25 percent), peer reputation (25 percent), student services and technology (15 percent), and admissions selectivity (10 percent).

Enrollment in UT Arlington’s graduate nursing programs rose more than 400 percent from spring 2010 to 2015, jumping from 595 to 3,162.

Benefits of joining these organizations have been numerous. In addition to leadership skills and networking, Moreno-Quiñones has gained a more thorough understanding of how a patient’s cultural background can affect overall wellness.

“Cultural competency is key,” she says. “As nurses, we must gain our patients’ trust, and what better way to do that than through understanding who they are, from their values to their beliefs.”

With graduation imminent, Moreno-Quiñones has accepted a position as an intensive care nurse in the medical intensive care unit of a prestigious hospital. She plans to return to school after completing her BSN program, and using her knowledge to provide better care for our patients.”
Football has borne the brunt of the backlash as the NFL works to settle a $765 million lawsuit with former players charging that the league needed to do more to protect players from repeated concussions that can lead to chronic traumatic encephalopathy, a progressive degenerative disease found in people with a history of multiple concussions.

But other sports and even simple playground antics can cause concussions. The Centers for Disease Control reports that each year U.S. emergency rooms treat an estimated 173,285 sports and activity-related traumatic brain injuries in kids 19 and younger.

So what’s a parent to do? Cindy Trowbridge, associate professor of kinesiology in the College of Nursing and Health Innovation, is researching the best...
Understanding the child's brain
Concussions are a type of mild traumatic brain injury and are considered a result of traumatic shaking of the brain. They can cause acute and long-term changes in brain physiology and function, including cognition. And for children with developing brains, they can be especially dangerous. The children have smaller brains in relation to their skulls. Compared to adults, the young child’s brain has less mass and cerebrospinal fluid between the brain and the skull. Think of it like an egg — there’s room for it to move because children’s brains have less mass in relation to the skull, their brains experience more accelerated returns. That means brain can hit the skull with more force when jolted on the playing field.
A child’s brain also appears to be far more plastic or impressionable than the adult brain. This helps during maturation; however, it can have negative effects associated with brain injury because the brain itself is less resistant to trauma.
“We can’t fix brain injuries like we can fix damage to ligaments and bones,” Trowbridge says. “Therefore, it’s important for parents to know when to play and when to stop play based on their children’s brains and to be aware of the potential long-term effects a concussion can have on normal brain development.”

Recognizing the symptoms
Recent research has shown that parents have misconceptions regarding the definition, symptoms, and treatment of concussions. Trowbridge says many don’t know that concussions can occur from trauma other than a blow to the head. They also don’t readily recognize key symptoms of concussions, including irritability and sleeping difficulties. Some people incorrectly identify arm and leg weakness or numbness as concussion symptoms.
Parents are in a prime position to recognize the signs and symptoms of a concussion in their child. The culture of sport encourages children to play and win, so a child often will play through problems from medical practitioners. But Trowbridge says parents can pick up on the subtle signs of problems associated with a previous concussion.
Symptoms usually are classified into four categories: physical, cognitive, emotional, and sleep patterns. The physical signs include, but aren’t limited to, headache, loss of consciousness, dizziness or balance problems, confusion (talking, thinking, feeling, vision problems, dizziness), sensitivity to light or sound, blurred vision, dazed or stunned expressions, ringing of ears, sensitivity to light and noise, and vomiting.
Among the cognitive responses are mental slowing or fogging, and emotional symptoms include irritability, uncharacteristic actions, anxiety, sadness, and depression. Sleep changes such as excessive drowsiness, trouble falling asleep, and altered sleep patterns are also common.

When is it OK to play?
Unfortunately, the play and return to learn (or classroom) guidelines aren’t widely understood by parents and even many health care providers.
“The purpose of the SmartTeams pilot program is to demonstrate to parents, that have demonstrated a commitment to minimizing the risk of physical, psychological, and sexual injury to young athletes.”

Getting smarter about injuries
Last year Trowbridge became one of six certified athletic trainers selected to coordinate her nationwide program launched by the MomsTEAM Institute, which provides youth sports stakeholders with comprehensive information and best-practice resources to keep children safe while playing sports. The nonprofit institute recently was named as a “pioneer organization” to implement the International Safeguards for Children in Sport in the United States as part of a global initiative by UNICEF.
Called SmartTeams, the program is an approach to sports injury and concussion risk management based on MomsTEAM’s work with a high school football program in rural Oklahoma. MomsTEAM was able to reduce concussion rates and improve identification and management of concussions. The work was chronicled in a PBS documentary called The Smartest Team: Making High School Football Safer.
As part of the initiative, Trowbridge began working with Grand Prairie youth football coach Iza Carter and team parents. She outfitted the team with Brain Sentry helmet-mounted sensors that monitor impacts and help identify players who should be evaluated for concussions. She also worked with parents to manage other issues such as hydration and heat-related injuries, as well as common cuts and bruises.
SmartTeams is set to roll out nationally this year. SmartTeam status will be awarded to youth sports organizations, nominated by parents, that have demonstrated a commitment to minimizing the risk of physical, psychological, and sexual injury to young athletes.

“Because of the SmartTeams pilot program is to demonstrate to parents, coaches, administrators, and health care professionals that there are steps we can take now to make young sports safer,” says Brooke de Leuch, executive director of MomsTEAM. As part of her research, Trowbridge surveyed parents to check their knowledge before the educational component of the program. So far she’s discovered that face-to-face meetings work better than email to discuss health concerns. She says parents can get the basic information in a 45-minute meeting at the opening of the season, then get more information if needed. “I keep hearing parents say, ‘If I only’d known,’” Trowbridge says. “That’s why I feel so passionate about letting parents know making them aware so they can make these decisions and make them based on education and not based on gossip.”

For more about the SmartTeams program, go to smarteamsplayoffs.com.

Dr. Cindy Trowbridge, SmartTeams coordinator, says parents should understand the signs of concussions.

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We can’t fix brain injuries like we can fix damage to ligaments and bones.

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Most Common Concussion Symptoms

1. Headache
2. Difficulty concentrating
3. Fatigue
4. Dizziness
5. Fogginess
6. Feeling slowed down
7. Light sensitivity
8. Balance problems
9. Difficulty with memory

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Dr. Cindy Trowbridge talks about understanding the signs of concussions.
Meet the Sims

UT Arlington's high-tech Smart Hospital explores the most innovative ways to train health care professionals. BY ROBYN ROSS

SYDNEY LOGAN FELT QUEASY. It was probably a stomach bug or maybe food poisoning from all the adventurous dining he'd enjoyed on his trip to the Far East. After his 15-hour flight from Beijing landed at DFW International Airport, the 64-year-old began suffering waves of nausea and diarrhea. Seeking relief, he checked into UT Arlington's Smart Hospital.
When Amber, a student nurse, consulted his file at the beginning of her shift, she noticed a note from the previous nurse saying that, in addition to his nausea, Logan had complained of pain in his left calf. Amber noted that her patient complained of nausea and leg pain and was already receiving nausea medication. His leg was slightly swollen, red, and warm to the touch. He had been sedentary for a long time on the flight and was probably dehydrated.

Amber’s supervising professor, who had been evaluating her work, congratulated her on her performance, and Amber smiled in relief. She’s passed her exam.

Logan isn’t a human being. He’s a high-tech manikin who can simulate human breathing, pulse, speech, pupil reaction, and even bodily fluids. He’s one of over 40 manikins representing both genders as well as a variety of ages that are used in simulation education, research, and the development of innovative teaching methods. The Smart Hospital is a nationally recognized center for health care education using simulation techniques and hands-on teaching methods.

“Rather than ‘see one, do one, teach one,’ we actually allow students to perform a procedure and make an error on the manikin. This gives students the opportunity to see the consequences of their mistakes. In the clinical setting, instructors cannot allow students to make errors on real patients,” says Judy LeFlore, associate dean for simulation and technology in the College of Nursing and Health Innovation.

Changing classes

When it opened in 2007, the 13,000-square-foot Smart Hospital was at the forefront of the national trend of integrating more simulation into the nursing curriculum. Its equipment comes from three corporate partners: Laerdal Medical, which makes the manikins and other training devices; Hill-Rom, which produces hospital beds, room furniture, and headwalls; and CareFusion, which supplies equipment including IV pumps, respirators, and supply and medication dispensing machines.

By partnering with corporations that provide state-of-the-art technology, faculty can replicate real-world medical scenarios and tailor training to enhance hands-on learning opportunities. But can simulation effectively replace the clinical hours traditionally required for nursing students to develop competence? In January of this year, the College of Nursing and Health Innovation received a $1.8 million grant from the Texas Higher Education Coordinating Board to identify the optimal simulation and clinical experience requirements for pre-licensure education.

The research will involve 1,500 students over 20 months and is a collaborative effort uniting UTA, three other nursing schools, the Dallas-Fort Worth Hospital Council Foundation (DFWHC), and several health systems including HCA North Texas Division, Baylor Scott & White Health, JPS Health Network, Kindred Healthcare, Methodist Health System, and Texas Health Resources.

“Hospital employers are interested in making the clinical portion of nursing education more efficient and effective when preparing nursing graduates to be ‘practice ready,’” says Sally Williams, director of the DFWHC Foundation Workforce Center. “This collaboration will make a significant impact on the preparation of future graduates entering the North Texas health care workforce.”

The project will begin by identifying specific skills, behaviors, and competencies students should be taught in areas such as pediatric and adult care. Then, data will be collected on study and control groups of nursing students as they progress through their clinical experiences, including an initial simulation experiences.

In all, the researchers expect to gather more than 1 million data points before using the findings to make recommendations.

“UT Arlington is particularly qualified to lead this new research project because of our history of successful student outcomes, our emphasis on health research, and our groundbreaking work in simulation technology,” says Anne R. Bavier, dean of the College of Nursing and Health Innovation.

“The results of this study will influence education and health care in Texas and the nation far into the future.”

Smart teaching

In July 2016, the National Council of State Boards of Nursing published a landmark study showing that simulation can effectively replace clinical hours in the hospital.

Researchers compared three groups of students: one that predominately did clinical experiences with live patients with not more than 10 percent of clinical hours spent in simulation, one that replaced a quarter of their clinical experiences with simulation, and one that replaced half of their clinical experiences with simulation. All three groups demonstrated equal knowledge, competency, and critical thinking, suggesting that simulation is an effective substitute for clinical time with actual patients.

“The study validates that student outcomes are no different if clinical experiences are replaced by well-designed and executed simulated clinical experiences,” Dr. LeFlore says.

Unlike traditional clinical training, the Smart Hospital ensures that students are exposed to a wide array of scenarios. Faculty can use a manikin to simulate a rare malady instead of waiting for a patient with that particular malady to seek care. Practicing on a manikin lets students make, and learn from, mistakes—something that could never happen with real patients.

“With a simulated patient, we can let the students work independently and figure out what to do,” says Kristine Nelson, the Smart Hospital’s manager of simulation operations. “Hopefully, they do things correctly. But maybe they do things wrong and, following that experience, they have been sedentary for a long time on the flight and was probably dehydrated.
A Cast of Characters

UT Arlington's Smart Hospital is a Laerdal Center of Excellence in Simulation with state-of-the-science human patient simulators from infants to adults. They can mimic human vital signs and a variety of symptoms from rumbling stomachs to mournful wails. Instructors can present a variety of scenarios to help students gain confidence as they build skills. Meet a few of the (simulated) patients.

Meet the Sims

**SimMan Essential**
This high-fidelity simulator has an umbilical cord that can be assessed, cut, and catheterized for intravenous therapy. It can represent a pregnant female patient with complications such as shoulder dystocia, ruptured uterus, eclampsia, and abnormal heart rhythms. It can simulate meconium-stained amniotic fluid, fetal heart rate decelerations, and abnormal heart rhythms. Instructors can control the manikin's response to treatment, LeFlore says, “and that will get the ball rolling.”

**SimNewB**
This is a high-fidelity neonate patient simulator with the same kind of scenarios used to instruct students. But instead of the manikins and control room being nearby, they may be miles apart. By using manikins and related Laerdal software, LeFlore can run a simulation from the Smart Hospital at UTA for neonatal nurse practitioners at another site, whether across town or out of state. The technique first had to be tested to determine whether such remote simulations were possible. LeFlore and colleagues partnered with Pediatrix Medical Group, a division of the medical staff at the Smart Hospital.

**SimJunior**
A moderate fidelity simulator represents a child around age 6 and can display a wide range of conditions, from a healthy, talking child to an unresponsive, critical patient with no vital signs.

**SimBaby**
This is the latest technique called remote-controlled distance simulation, which creates the same kind of scenarios used to instruct students. But instead of the manikins and control room being nearby, they may be miles apart. By using manikins and related Laerdal software, LeFlore can run a simulation from the Smart Hospital at UTA for neonatal nurse practitioners at another site, whether across town or out of state. The technique first had to be tested to determine whether such remote simulations were possible. LeFlore and colleagues partnered with Pediatrix Medical Group, a division of the medical staff at the Smart Hospital.

The company got involved because it saw simulation as a potential way to train its 700 neonatal nurse practitioners and validate their competency, says Debra Sansoucie, vice president for advanced practitioner programs at Pediatrix. It funded a feasibility test of a remote-controlled distance simulation of a neonatal care emergency, which LeFlore, from her computer in Arlington, ran for a team of Pediatrix clinicians at Cook Children’s Medical Center in Fort Worth.

The successful test and its implications for future training are documented in a paper published in the August 2014 issue of Clinical Simulation in Nursing by LeFlore, Sansoucie, and colleagues. Continuing Education

The success of the test demonstrated that simulation is a cost-effective training option for continuing education. LeFlore and Sansoucie are now in the third year of implementing a remote-controlled distance simulation program for practitioners using Pediatrix hospitals’ risk management data and credentialing requirements to choose scenarios that address critical needs.

It might be a premature baby, or (as in the test simulation) a baby with pneumonia, a hole in the lung that causes it to collapse and the chest cavity to fill with air. "We’re really focusing on what we call the low-volume, high-risk scenarios," Sansoucie says. “Those are things you may not be exposed to that frequently. But when you are exposed, you need to know how to respond, and you need to respond rapidly.”

The UTA/Pediatrix partnership is the result of collaboration between LeFlore and Sansoucie, whose careers followed similar trajectories before they met at a conference in 2009. Both began as neonatal intensive care nurses, became nurse practitioners, and went on to teach at the university level. Now that LeFlore, Sansoucie, Cason, Thomas, and their colleagues have demonstrated the effectiveness of remote-controlled distance simulation for practitioners, they’ve begun implementing such competency validation for Pedia- trix clinicians across the country.

“We’re still in the infancy of this project, which I see just growing in importance as time goes by and as we’re able to embed it into our more than 140 practices across the country,” Sansoucie says. “Hopefully, the research will be read by leaders of national organizations that can implement change,” LeFlore says, “and that will get the ball rolling.”
FOLLOW UP

Alumna serves on ship of hope

Spreading hope isn’t specifically in Stephanie Duncan’s job description, but it’s an essential part of her workday.

As hospital ward supervisor aboard a large hospital ship docked in Tamatave, a seaport on the coast of Madagascar, Duncan works alongside other medical professionals to offer hope to people in need—and to save lives. The patients they treat often have debilitating tumors and hernias that need expert surgical attention.

“Patients come to us desperate for an answer, for new life,” the 2006 nursing graduate says. “And the awesome thing is we get to provide that for them.”

The vessel is part of Mercy Ships, a charity that provides free health care, community development education, health education, and more. Doctors and nurses aboard the ship donate their time and often spend their own money to work in service there.

The ship will be docked in Tamatave until June 2016. After that, Duncan will go wherever Mercy Ships takes her.

“There are hundreds of thousands of people in need, and when I think about it, it’s overwhelming,” she says. “But working together with other like-minded people, we can really change the world, one patient at a time.”

Head of the Class

Jose Alejandro inducted into American Academy of Nursing

Since graduating from UT Arlington in 1998, Jose Alejandro has built an impressive résumé, earning two master’s degrees and a doctorate.

But for Dr. Alejandro—a nursing professor at El Centro College in Dallas and a nursing consultant—UTA is never far from his mind.

“UTA gave me the foundation for everything I’ve been successful in, from being involved with professional organizations to having mentors who really valued their mentorship and made every effort to make sure that we were successful,” he says. “I’m very loyal to UTA.”

One of those Maverick mentors, Professor Emeritus Mary Lou Bond, nominated Alejandro to the American Academy of Nursing. Also nominated by Angie Milan, past president of the National Association of Hispanic Nurses, Alejandro was inducted into the academy in 2014 and is now a fellow for life. The academy seeks nursing professionals who’ve made a national impact.

In July 2014, Alejandro wrapped up a two-year term as president of the National Association of Hispanic Nurses. While at the NAIN, he reorganized the group’s business model, which translated into growth in membership, influence, and revenue.

“I think we need to do more to encourage Hispanic youth to go into nursing at an earlier age,” he says. “Encouraging young Hispanics to consider nursing is his passion. He believes nursing groups should begin reaching out to the elementary school level. Only 4.8 percent of nurses are Hispanic, and only 11 percent of all Hispanic nurses are male, according to minoritynurse.com.

While at UTA, Alejandro was a founding member of what is now the Hispanic Student Nursing Association.

“I see an extremely bright future for Hispanics in nursing,” he says. “The growth potential is there.”
Making Dreams Come True

Giving to Dream Makers Scholarship program changes lives

Elizabeth Roberts was working as a personal shooter but soon realized her real passion was nursing. A 2011 biology graduate, she wanted to find a way she could focus on her dream of pursuing a career in individual health care and positively impact her communities and the world from the beginning.

“I felt that it was important to give my undivided attention to my classwork,” Roberts says. “I had to work hard and go to school full time, to pay for living expenses. I felt that I would have done well and my parents would have died in poverty.”

She was able to focus on her studies full time thanks to a scholarship funded by the Dream Makers program. Roberts quit her job and entered the Off-Campus Accelerated program.

She graduates in May and is interviewing for a position in critical care.

“The scholarship helped tremendously,” says Roberts. “It’s kept me up to date on my courses and books, and I didn’t have to rely as much student loans.”

Since 2002, the Dream Makers Scholars program has contributed more than $3 million toward scholarships for students in the College of Nursing and Health Innovation.

The generous donations support the dreams of some of the nation’s most promising students. These future leaders in health have the potential to improve the lives of their clients and patients, offset change in the health care industry, and positively impact their communities and the world.

The endowment fund scholarships are awarded to undergraduate nursing students who have exhibited excellence in leadership through involvement in their organizations, University committees, events, members, and academics.

Its first recipient was Maria Moreno-Quintero, a senior nursing major who has served in leadership roles in the Hispanic Student Nurses Association, and is a member of Sigma Theta Tau International, the honor society of nursing.

For more information about the Dream Makers program, contact Sandra Golightly at sуглithub@uta.edu or 817-272-4793.

Honoring a retiring leader

Jean Abbott helped hundreds of nursing students navigate their path to a degree through her work in the classroom and as assistant dean of admission and student services.

So when she retired in December, the graduate wanted to help with faculty and staff to find a perfect way to honor her by creating the Jean Abbott Leadership Endowment.

The endowment will fund scholarships to be awarded to undergraduate nursing students who have exhibited excellence in leadership through involvement in their organizations, University committees, events, members, and academics.

Its first recipient was Maria Moreno-Quintero, a senior nursing major who has served in leadership roles in the Hispanic Student Nurses Association, and is a member of Sigma Theta Tau International, the honor society of nursing.

For more information including making a contribution, please contact Sandra Golightly at sуглithub@uta.edu or 817-272-4793.
Program helps kids improve their moves

When kinesiology Assistant Professor Priscila Caçola started recruiting for a study on developmental coordination disorder in spring 2012, parents showed up with their kids—and lots of questions. Sometimes called dyspraxia, DCD is a neurodevelopmental condition characterized by poor motor skills that interfere with daily activities, often resulting in problems with handwriting, coordination, and/or balance. Although DCD affects 5-6 percent—or more—of schoolchildren, resources for kids and their parents are scarce.

Dr. Caçola, director of UTA’s Developmental Motor Cognition Lab, quickly realized she could help. That fall, she started the Little Mavs Movement Academy, a group motor skill intervention program that helps kids ages 6 to 15 with movement and coordination difficulties. Currently 25 kids are enrolled in the program, which meets once a week.

“I thought it was a great way for UTA students to learn how to work with kids. We could create a community,” Caçola says, noting that children with DCD often suffer from anxiety, depression, or low self-esteem related to their poor motor ability. “They understand really well that they have poor motor skills. It’s one of the few developmental disorders where the kids are aware that they are different.”

She thought working in a group would help the children feel better and be more motivated. Preliminary research shows the intervention is helping with peer problems, improving anxiety levels, and boosting confidence. Caçola also has conducted research showing lack of coordination in catching a ball, walking a straight line, or writing in between the lines is actually a spatial issue.

“It’s not that their muscles are not working correctly, it’s that they can’t estimate where they should be correctly—and that’s a huge role in catching a ball,” she says. “One of the things I’m looking at is coincidence timing, which is being able to match your body to an object in space at the same time.”

An experiential paradigm in her lab involves kids intercepting objects that move to and away from them to see how those with DCD compare to typically developing children. Initial research shows DCD kids are 3-6 centimeters off compared to others.

“They aren’t ‘not catching’ the ball because they have balance problems. It’s because they don’t know where the ball is,” she says. “They are 2½ inches off. It’s really interesting.”

Jaeca Flanagan, a student in the College of Nursing and Health Innovation, fulfills her potential and discovers her passion.
Nursing and kinesiology graduates marched together for the first time in the 2014 Winter Commencement of the College of Nursing and Health Innovation held in College Park Center.

It was also the first commencement presided over by Dean Anne R. Bavier, who told graduates they would join the college’s more than 19,000 alumni who are making significant health contributions to the people of Texas and beyond.

“We want to hear from you, we want to know about your accomplishments, and we want you to come back when you seek your next degree—and you will,” she added.

UT Arlington is the largest producer of baccalaureate-degree nurses in Texas.