



It's in the Genes

Nurse Researcher Pursues Quest for Learning

By KATHLEEN CHARTER
Texas Medical Center News

Lorraine Frazier, D.S.N., had an established history with the Texas Medical Center before ever becoming a student, and eventually an associate professor, at The University of Texas School of Nursing at Houston.

When Frazier was 11 years old, her father was diagnosed with hypertension and kidney disease. Her family frequented the Texas Medical Center during his course of treatment.

"I remember walking around the Texas Medical Center, looking at the different parts of the hospitals, and waiting in his room for the doctors and nurses to make their rounds. I wanted answers to our questions," Frazier said. "I thought, 'I need to find these answers, for my parents and me.'"

This gave me a real interest in research."

It was from this early age that Frazier knew she wanted to become a nurse. She first became a registered nurse before obtaining

a Bachelor of Science in nursing from the University of Oklahoma—and she hasn't stopped learning. She since earned Master and Doctor of Science in nursing degrees from the UT-Houston School of Nursing, and is now working on a Master of Science in clinical research at The University of Texas Medical School at Houston. This master's program is designed for medical school faculty, and Frazier is the only nurse in the program.

After eight years of doctoral and postdoctoral



education and training, Frazier is now concentrating on building and developing the research career she'd dreamed of as a child.

"The more education you have, the better researcher you become," she said.

Frazier is a nurse practitioner by trade, and because of her long-held interest in clinical research, said she is excited to discover how the clinical and bench focuses fit together.

"The UT-Houston Medical School program was a good opportunity for me, because my interest is in designing genetic studies that involve a clinical component. This master's program gives me the skills and the training that I need to design genetic studies and show their results."

She said she designs her studies so that when the final data is analyzed, it is done in a meaningful way.

"It has been a really great experience for me to build a research career based on my interest in genetics and cardiovascular disease," she said.

Although the UT-Houston School of Nursing

(See "Genes" page 45)

STUDYING SAMPLES—Nurse researcher Lorraine Frazier, D.S.N., right, and Facheng Luo, Pharm.D., prepare to examine cardiovascular disease patients' blood samples for genetic markers that will determine risk of future heart complications. Frazier is project director of Texas Medical Center Genetics, a multicenter project partnering The University of Texas Health Science Center at Houston, The University of Texas M.D. Anderson Cancer Center, Baylor College of Medicine and the Texas Heart Institute. Luo is a postdoctoral fellow at The University of Texas School of Public Health's Human Genetics Center.

Doctors, Lawyers Team Up to Teach Kids About Drugs

By RONDA WENDLER
Texas Medical Center News

Does too much alcohol kill brain cells? How can I get my mom to stop smoking? Can the school principal search my locker? These are a few of the many questions asked by children during a drug education program sponsored by the Harris County Medical Society and the Houston Bar Association.

Dubbed the "Interprofessional Drug Education Alliance (IDEA) Program," the program teams doctors and lawyers who twice a year visit elementary and middle schools to have frank discussions with kids about the realities of substance abuse. Physicians inform the students about how abusing drugs, alcohol and tobacco can damage their minds and growing bodies, while lawyers discuss the perils that await youth who enter the criminal justice system. In its 11th

EXPERT ADVICE—Harris County Medical Society President Kenneth Mattox, M.D., fields questions from curious fifth-graders at Roberts Elementary School. Mattox, who also is chief of staff at Ben Taub General Hospital, participated in a program that sends doctors and lawyers to schools to educate children about the medical and legal consequences of drug abuse.



(See "IDEA" page 45)

NURSES

Add Color to Life

"Genes"

(Continued from page 1)

doctorate program provided a solid foundation in research, the UT-Houston Medical School master's program gives Frazier further training in research development and design. She is unique because her studies involve thousands of patients who are followed over a long period of time. Most nursing faculty work on small, focused studies.

"Nurses make great researchers because they're analytical by nature," Frazier said. "They assess and evaluate situations well."

Adding to her research role, Frazier is project director of Texas Medical Center Genetics, known as TexGen, a multicenter project partnering The University of Texas Health Science Center at Houston, The University of Texas M.D. Anderson Cancer Center, Baylor College of Medicine and Texas Heart Institute. Launched in December 2001, TexGen uses unprecedented research to study cardiovascular disease, cancer and stroke — the three leading causes of death in the United States — at the molecular level.

Frazier's research mentors include Eric Boerwinkle, Ph.D., professor and director of the Human Genetics Center at the UT-Houston School of Public Health; Janet Meininger, Ph.D., UT-Houston School of Nursing's Lee and Joseph



TYPING GENES—Lorraine Frazier, D.S.N., oversees data computed by a Sequenom, an instrument that genotypes blood samples from cardiovascular disease patients enrolled in Frazier's "Inflammatory Markers and Cardiovascular Patient Outcomes" study.

Jamail Distinguished Professor and head of the school's theory, research and system support division; and Jon Tyson, M.D., director of UT-Houston Medical School's Center for Population Health and Evidence-Based Medicine. They have been integral in assisting Frazier with securing funding for her research.

One of her current projects, "Inflammatory Markers and Cardiovascular Patient Outcomes," which looks at genetic differences of patients and their blood-pressure response to hypertensive medicine, was recently awarded a three-year, \$337,567 Mentored, Patient-Oriented Research Career Development Award from the National Institute of Nursing Research, a branch of the National Institutes of Health.

The inflammatory marker study, one of several Frazier is working on, specifically targets patients who are admitted to the hospital with acute coronary syndrome. She's looking for markers to determine these patients' risk of future adverse events.

Blood samples of 20 cc each are taken at 11 a.m. each day from patients' bedsides at St. Luke's Episcopal Hospital, and the blood is iced immediately. The samples are delivered to the lab by 3 p.m. and centrifuged the same day. The samples are then frozen and the cells "immortalized."

"I know firsthand what families go

through ... just one little genetic mutation can make a big impact. We want to determine how to treat these patients so they will have the best health care outcomes with the least amount of complications," Frazier said.

In addition to her research projects, Frazier is an associate professor in the school of nursing's systems and technology department. She teaches research and genetics, and encourages her students to join her field of study. Recently, she said one of her students expressed an interest in Down syndrome research. As it stands now, palliative research is done for many groups of patients, but not this one in particular. The student, who works in hospice care, felt that the needs of some of these patients have been overlooked and may choose to seek research answers to his question.

A "snapshot" of a researcher's day has many pieces.

"You'll find us in many roles," Frazier said.

"Nurses don't only see genetic differences in patients," she said. "They view the patient in one shot, from birth to death. The nursing discipline provides a broad spectrum of the total health care experience."

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"You'll find us in many roles," Frazier said.

The wee hours are precious to Frazier, who begins many days at 4 or 5 a.m. She is able to think clearly and get some things accomplished before her day takes off. She arrives at her office between 6:45 and 7 a.m. and doesn't leave until 5:30 or 6 p.m.

"Then I'm reading in the evenings and working on weekends. Weekend work really gives you a heads up on the week. If you don't work weekends, come Monday, it gets really hectic."

All told, Frazier devotes 60 to 80 hours a week to her job.

"I never have a dull day ... I have lots

of hectic days, but I never a dull one," she said. "I'm passionate about my work. To be a researcher, you have to work many, many long hours."

Frazier said she works with some good researchers with really good habits, and those habits have rubbed off.

"In order to become a better researcher, it is important to work with team members, such as my mentors, with more experience," Frazier said. "I am a junior team member, but have learned a lot. I must be well prepared, well read, and they always challenge me to be the best that I can be."

Frazier makes a point to go outside of her discipline, and learns as much as she can about all research project components.

"Transdisciplinary teams are educated in all parts of a research project. As a well-rounded team member, I am confident enough in my knowledge that I can even lead a team as principal investigator," she said.

When her latest degree is complete, Frazier will be on the lookout for the next learning opportunity that comes her way.

"If something else comes along and I need that information, I'll be there. The Texas Medical Center offers an abundance of learning opportunities," Frazier said. "I've always loved education, and always liked to learn new things. I guess that's why I'm here."

Staying updated on the latest scientific advances is important, Frazier added.

"You can't discover new information unless you keep learning. Your work is kind of like your baby — you're always attending to it in some way or another. It's fun to be part of a great team and the Texas Medical Center is a great place to be." ■

"Clinical Neurology for the Primary Care Physician" May 10

St. Luke's Episcopal Hospital will host "Clinical Neurology for the Primary Care Physician" May 10 in the Cooley Auditorium, located in the lower level of the Texas Heart Institute at St. Luke's Episcopal Hospital - The Denton A. Cooley Building.

The course will help primary care physicians to identify, evaluate and investigate patients with neuropathy; make ethical decisions when dealing with patients affected by altered mental status; diagnose and treat migraine patients; identify and manage stroke risk factors; and appraise patients with memory impairment.

St. Luke's designates this continuing medical education activity for four hours in Category 1 credit toward the AMA Physician's Recognition Award. The cost for the symposium is \$90.

For information call (832) 355-4200. ■

"IDEA"

(Continued from page 1)

year, the program has reached more than 35,000 students in many local school districts.

"Every day I see patients in the emergency room because of alcohol and/or drugs. The consequences to young people and our society are enormous," said Kenneth Mattox, M.D., president of the Harris County Medical Society and chief of staff at Harris County Hospital District's Ben Taub General Hospital.

Mattox and attorney Melanie Rubinsky were among twelve doctor/lawyer teams who fanned out across the city April 10 to educate 1,300 fifth graders about the medical and legal consequences of drug and alcohol use.

The pair fielded two hours of questions from curious 10 and 11 year olds at

Roberts Elementary School, located within a mile of the Texas Medical Center. "Show and tell" aids such as a human liver damaged by alcohol abuse and handcuffs worn by juvenile offenders helped stimulate the discussions.

"Maybe something the kids hear today will cause them to think twice if they're in a situation where they must make a choice," said Rubinsky.

Samuel Sarabia, school principal at Roberts Elementary, said fifth-graders are especially vulnerable to peer pressure.

"They're leaving elementary school, where they were the oldest students, for middle school, where they are the youngest students. Peer pressure becomes intense. This is when many either go right or go wrong, and the path they choose follows them forever," Sarabia said. ■

"Center"

(Continued from page 22)

Advanced practice nurses working through the Center work with staff in some hospital service lines — particularly cardiovascular, medical and surgical — to advance expert nursing care and keep nurses up-to-date on the latest developments in their fields.

A nursing support system provides staff to help develop and generate operational reports, automated staffing systems, and other tools useful to nursing staff. The Center also promotes special events to honor the work of nurses at Methodist.

A grant from The Methodist Hospital Auxiliary helped build and equip the Center's Nurse Resource Room, outfitted with computers that nurses can use to access library resources and Internet/intranet services.

"These resources are key to having a good supply of qualified, skilled nurses in years to come. It was a key factor in achieving Magnet designation," says Keller. "The Center for Professional Excellence is a great example of how committed Methodist is to supporting and advancing professional nursing." ■