



# M.D. T.V.

## TELEHEALTH IS REALIZING THE SCHOOL'S MISSION IN A PROFOUNDLY 21ST CENTURY WAY

Written by Karen Carlson • Photography by James Hawker

Back in 1995, leaders at SIU School of Medicine knew telemedicine would be the next big thing. Associate Dean for Educational Affairs Linda Distlehorst, Ph.D., noted, "Computers and long-distance audio and video equipment are becoming just as important as stethoscopes and microscopes." Then-Dean Carl Getto, M.D. wrote, "New technologies such as telemedicine need to be harnessed to demonstrate efficient and effective mechanisms of health professions education." Former Chair of Psychiatry Earl Loschen, M.D., also recognized the potential of videoconferencing to help disabled patients.

They were right. Telehealth has given SIU School of Medicine a whole new way to realize its mission using videoconferencing. What began at SIU in 2001 as a tool for continuing education and physician-to-physician communication is now advancing as an instrument of patient care. Through telehealth, doctors and patients are as near as the closest video camera.

"Telehealth is an important strategy to help the School of Medicine meet its mission," says Phillip V. Davis, Ph.D., associate provost for External and Health Affairs. SIU has invested a total of \$2.4 million to connect and equip its campuses and other sites throughout rural Illinois to foster the largest and most active telehealth program in the state.

Nationally, mental health, dermatology, cardiology and neurology are the top applications of telehealth. Experts predict that nearly 56 million subscribers will join telehealth worldwide in the next 10 years.

SIU Telehealth Director Deborah Seale emphasizes that telehealth does not replace physicians in the patients' hometowns. "It's there to fill in the gap and support existing physicians," she

says. SIU physicians provide care as requested by patients' primary health care provider. "We think of telehealth as bringing the doctor to the patient. If we use telehealth to help primary care providers manage complex conditions, that provider can then help other patients with similar conditions," says Seale. "Video access uses scarce resources more effectively."

But can a few video cameras really make a difference in patient care? "Telehealth is more than technology," Seale notes. "The personal relationships with people make telehealth work." Nearly 150 clinics and hospitals have joined SIU's telehealth network. "We partner with organizations having member affiliations, which creates a huge network of friends who use telehealth to work together to improve health care throughout Illinois."

### Patient Care Across the Miles

Telehealth's two-way video adds new tools for the doctor's bag. Jeffrey Bennett, M.D., notes that the quality of the audio and video is critical to see and hear the reactions of the patients. "The quality of the setup here at SIU is great," he says, crediting the SIU Telehealth team for the success. "Without them, we wouldn't be able to serve these patients."

The patients served by SIU Telehealth live in underserved areas, and the physicians also say they felt professionally isolated before they reached out to the School of Medicine for help. "Telehealth took us out of the dark ages," says Rod Curtis, M.D. Patient care, he says, is clearly the future of telehealth. "That's the only way some places in Illinois are going to get specialists."

Sessions are done in the patients' hometown clinics or hospitals, using private, comfortable rooms. The patients "meet" the SIU specialist through two-way video, and the session continues much like a traditional doctor-patient visit.

Joshua Sarver is one of seven coordinators in the SIU Telehealth department who provides technical and program support, working with the patient's nurse at the local hospital or clinic. Through the technology, the coordinators transmit messages back and forth to aid in the video setup and pass along details or concerns about the patient.

SIU's Telehealth team has worked hard to help doctors adjust to the technical needs of videoconferencing in health care. "During an exam, physicians and nurses are trained to approach patients from the front and right side," Sarver explains. "With videoconferencing, that angle blocks the camera. We've learned to reposition the doctor, so that the physician at the other end of the camera can accurately observe the patient." They also work with camera angles and lighting to ensure an effective evaluation for important details such as skin tone, eye response, gait, and gestures.

Patients are comfortable with the setup. One patient in Havana noted, "It's no different than sitting face to face with the doctor. In fact, I get a little more space to think about what I want to say."

Harry Wolin, chief executive officer of Mason District Hospital in Havana, was one of the first partners of SIU's Telehealth program, giving his somewhat professionally isolated medical staff access to SIU's continuing education series and case management conferences. "Telehealth has been a tremendous benefit to our doctors and our patients, giving them access to a service they otherwise would not have had. It's a wonderful program, and research shows patient outcomes are comparable to a traditional setting."

But what about the naysayers who say that you lose important, subtle details and can't build rapport with patients? Dr. Rod Curtis dismisses these notions. "Once you get familiar with the technology and see patients in the clinics, if the program is managed well, those issues evaporate. I believe you can interact even more effectively. My observational skills have intensified. I can really focus on the individual don't get distracted by what's going on around me."

## Helping a Vulnerable Population

Dr. Curtis, assistant professor at SIU and clinical services director for the Division of Developmental Disabilities (DD) at the Illinois Department of Human Services, has been an advocate of telehealth since its inception at the School. "Few physicians

understand the health care needs of people with developmental disabilities," he says. Transporting DD patients to Springfield can be upsetting and physically taxing for them. Telehealth lets these patients stay near home in familiar surroundings and access specialist expertise at SIU.

Dr. Curtis' IDD Telehealth Program is one of the largest SIU Telehealth partnerships, allowing SIU neurologists and psychiatrists to use telehealth technology to consult on DD patients at Jacksonville Developmental Center (JDC) and Murray Developmental Center (MDC) in Centralia. JDC clients also have had access to dermatologists, a great asset for patients and a learning tool for the staff. "With telehealth, we've demonstrated a meaningful, efficacious and cost-effective method of providing specialized care for people in need who otherwise would have challenges getting services," Dr. Curtis says.

Using the video technology also makes efficient use of the physicians' time and allows interdisciplinary consultation with medical staff, including primary care physicians, psychologists, pharmacists, and nurses, all collaborating to develop a treatment plan. "If I saw the same patient in Springfield, only one person would come with the patient, and the amount of information would be much less," says SIU Neurology Professor M. Steven Evans, M.D., who maintains a monthly tele-

neurology clinic at MDC consulting on epilepsy patients. "Having all these people present facilitates decision-making and allows the viewpoints and knowledge of all parties to be used." Dr. Evans admits that the neurological exam is not as good as one he would do in person, but he believes the effect is minimal. "The majority of the patients have had gratifying improvements in their seizure frequency or severity."

During his monthly clinic with JDC, Rodger Elble, M.D., Ph.D., SIU professor of neurology, sees patients with epilepsy and other neurological disorders. Like a face-to-face clinical exam, Dr. Elble can evaluate tremors, speech, and gait, while conferring with the patient's physician and caregivers. With the technology, he also is able to access Web sites to research patient symptoms during the exam. Dr. Elble and Dr. Evans hope to expand teleneurology to include evaluation for strokes in emergency rooms in small hospitals outside of Springfield.

JDC Director Peggy Davidsmeyer says the five-year relationship with SIU's Telehealth has led to better health care for her clients — and that leads to longer and more fulfilling lives. "SIU School of Medicine physicians have come to understand people with developmental disabilities. They bring a level of expertise we can't get locally."

DD clients also are getting mental health care through the SIU telehealth network. One or two afternoons a week, Hao-jiang Huang, M.D., Ph.D., assistant professor of psychiatry, connects to MDC from his Springfield office. From his desktop, he observes patients with profound disabilities, including severe mental retardation. Some cannot speak and have become aggressive or self-injurious. Some are destroying property; some

# "Telehealth took us Out of the Dark Ages."

— Rod Curtis, M.D.

# THE RIPPLE EFFECT

**167** clinics and hospitals  
"synchronized" with SIU's  
videoconference system

**105** communities served  
by SIU Telehealth

**48** weekly video-conference meetings



are depressed, anxious, or psychotic.

Using two monitors, Dr. Huang can review the patient's health record and use the other monitor to observe the patient. The patient and medical team can see him through a desktop video camera. "Together, we're providing critical services that are needed for these patients," Dr. Huang says. "The patient doesn't have to travel, and I can treat more patients by not driving to Centralia."

The collective expertise not only helps patients but also affords educational opportunities, as dozens of physicians in the telehealth network meet regularly to review clinical cases of the DD patients. "As a group, they are immediately able to provide advice and feedback about these extremely challenging patients," Dr. Curtis says. The IDD Telehealth Program offers educational programs at 40 sites in Illinois and throughout the United States. They have also connected with Cairo, Egypt, and Paris, France.

## Mental Health Care

The general adult population also benefits from telepsychiatry in underserved locations such as Havana, Ill. "Simply put, there are no mental health services, no psychiatrists in the area," says Harry Wolin, CEO of Mason District Hospital.

SIU assistant professor Jeffrey Bennett, M.D., holds a bi-monthly telepsychiatry clinic with the hospital, as well as with Sarah D. Culbertson Memorial Hospital in Rushville, treating psychiatric needs from depression to substance abuse. The so-

phisticated technology even allows Dr. Bennett to do a rudimentary physical exam on his patient to evaluate medication side effects. His clinic is designed to train residents in psychiatry about Telehealth.

Transportation to health care can be difficult for these patients in remote areas. In one session, Dr. Bennett encouraged a patient to pursue additional psychiatric treatment in a town 30 minutes away, but the man shook his head. "No. I don't have any way to get there, and I don't have the time." Finishing his third meeting with Dr. Bennett, both patient and doctor believe progress has made. Without the telehealth link with SIU, the patient would still be suffering.

Mary Dobbins, M.D., assistant professor of child psychiatry, was integral to the establishment of telepsychiatry at SIU. She was the first to do direct patient care and was the first to incorporate the education elements of telepsychiatry. "No one else is doing the same things we're doing to add an educational component to patient care," she asserts. "Through efforts such as case conferences, we are still providing patient care indirectly by allowing physicians to communicate and learn from each other. Then they can better treat their patients locally and share their knowledge with others."

Dr. Dobbins is further expanding the telepsychiatry network to include family practice physicians, private practitioners, pediatricians, and even preschool teachers. "Our connections are expanding like wildfire. We're reaching a greater number of professionals quickly, and it's having a ripple effect."

## Limitless Potential

The ripple effect will continue as SIU's Telehealth Program expands. "The DD telehealth initiative showed us that strong state and community partnerships are critical to strengthen health care in underserved areas," Seale says. Outreach has included wound care technology for patients' homes through the Visiting Nurses Association. Seale envisions future telehealth applications to include pediatrics, cancer, and stroke care. As physicians see more patients through telehealth, desktop video systems like Dr. Huang's may become common. Upcoming grant opportunities and research projects will cement the benefits of telehealth at SIU School of Medicine.

Telehealth also remains an indispensable educational tool, providing critical access and other rural hospitals in Illinois with live video for meetings and educational conferences, especially SIU's weekly Grand Rounds. "Our partnership with SIU is a valuable way to keep our physicians connected to a medical center to discuss new ideas and concepts," says Wolin. Davidsmeyer adds, "The training opportunities for professional interactions across the state and the country have been a huge asset to JDC."

Dr. Dobbins sees a bright future for telehealth. "We can't even guess what impact it's going to have. When the Internet first came, who dreamed the things we could do? Telemedicine is exactly the same. Its potential is limitless."

As telehealth continues as an innovative way for the School to fulfill its promise to the people, one patient sums up his experience. "I thought it was cool. It's the wave of the future, right?" ●●●