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## HEALTH & FITNESS

### Teledoctoring

Video technology brings together physician and patient over long distances.

**By Shari Rudavsky**  
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February 7, 2005

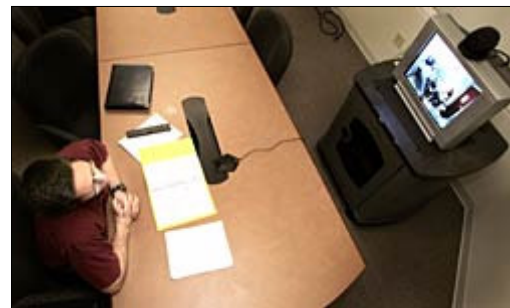
The three-hour-plus drive to Indianapolis long dissuaded Evansville parents Ted and Becky Karger from bringing Katie, their 9-year-old daughter, who has diabetes, to the experts at Riley Hospital for Children.

But thanks to a new pilot program that employs videoconferencing technology to hook up patients throughout the state with Riley staff, the Kargers met "face-to-face" with Riley specialists one recent morning without leaving southern Indiana.

Over the course of about three hours, the experts discussed Katie's care in depth with the family, gathering basic medical information and providing critical advice, like what the child should eat when she feels that her blood sugar level is low.

Such advances in technology are slowly transforming the way medicine is practiced.

Physicians and patients no longer need be in the same room for consultation and examination. Doctors can monitor patients in their homes and watch via Webcasts as colleagues around the world perform surgeries. Patients can carry their medical records on a CD or store them on a Web



Mike McCarthy, a pediatric nurse practitioner at Riley Hospital for Children in Indianapolis, meets by videoconference with the Karger family of Evansville. Visible on the monitor are the Kargers (from left) Ted, daughter Katie and mother Becky. Katie, 9, was diagnosed with diabetes five years ago. -- Daniel R. Patmore / For The Star

#### HEALTH-CARE CONNECTIONS

- **What:** Riley Connections -- A Telemedicine Program.
- **Where:** Connects experts from Riley Hospital for Children in Indianapolis with patients in Evansville, Terre Haute and Bedford.
- **When:** Came online in 2004.
- **Why established:** In response to Institute of Medicine report noting the lack of sufficient care for many complex chronic childhood diseases.
- **What it's used for:** Pediatric psychiatry, diabetes, urology, cardiology, neurology and other examinations.



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- Tingling
- Revulsion
- Yawn

VOTE

site. They can track their exercise regimens on certain Web sites.

And the trend toward e-health is just beginning, said Jonathan Linkous, executive director of the American Telemedicine Association, a nonprofit based in Washington, D.C.

"There is no question that telemedicine will become an integral part of medical care in each and every place it's delivered in this country," Linkous said. "Which bank do you know that does not have an ATM machine? That's the same thing that's going to happen to doctors."

Telemedicine often offers a viable alternative to costlier programs that require the patient or provider -- usually it's the former -- to travel long distances for health care. The beauty of e-medicine, said Dr. Joseph Kvedar, president of the American Telemedicine Association, is that it can resolve that issue without driving expenses too high.

"Right now, in health care, the holy grail is anything that can increase access and quality while keeping costs the same, and telemedicine does all that if it's properly implemented," he said.

In Indianapolis, the telemedicine movement has already taken hold for some. One program, run by Nightingale Home Healthcare, enables patients to stay home but be monitored by doctors.

Nightingale Home Healthcare keeps tele-tabs on 92 Central Indiana seniors, watching their vital signs through a device called HomMed.

HomMed, which has a blood-pressure cuff, as well as a foot pad for weighing, reminds the patient when it's time for a blood-pressure, weight, heart-rate or oxygen checks and coaches the user through the tests.

Then the device transmits the information to a central station, where a professional reads the results to make sure all is in order. If anything looks off, a nurse or doctor will call the patient to follow up.

"It's kind of like we have a nurse in their house every day," said Dennis Reeves, a Nightingale nurse who monitors the devices.

Pediatric neurologists and cardiologists at St. Vincent Children's Hospital have used telemedicine for about six years, said Dr. Sanjay Parikh, medical director for pediatrics. One pediatric neurologist does video consultations with patients in Evansville, similar to the Riley program.

Cardiologists also use telemedicine technology to help diagnose young patients at Home Hospital in Lafayette and St. Joseph's Hospital in Kokomo. A child in one of those cities can be hooked up to an echocardiogram machine, and the data it collects will be beamed to experts here, just as if they were in the same room. Then, doctors can analyze the data and decide whether the patient must come to Indianapolis for treatment, Parikh said.

Programs that enable doctors in urban areas to reach out to more isolated places are likely to proliferate in the future. The technology works particularly well in specialty care, said Alan Morgan, vice president of government affairs for the National Rural Health Association. Only 11 percent of the nation's medical specialists practice in rural areas, he said.

"Telemedicine does hold great promise in rural areas," Morgan said. "But obviously this is not going to alleviate the need of having a clinician present in a rural community. You're always going to have to have someone there locally that they can access."

At the Marshfield Clinic in Wisconsin, telemedicine has connected patients in 27 far-flung sites with specialists at the clinic's other offices. There, doctors routinely use digital electronic stethoscopes to listen to patients' hearts hundreds of miles away and use fiber-optic scopes fitted with mini-cameras to examine patients' ears, eyes and mouths.

#### **Better than being there**

The remote scopes often improve upon the technology that doctors use when they're face to face with patients, said Nina Antoniotti, program director for telehealth at Marshfield, which handles about 2,000 adult and child telehealth visits a year.

A normal eye or ear scope does little more than illuminate the region for the doctor. The fiber-optic scope, however, takes a picture that's then beamed to display on a television screen, magnifying the image and making it much easier to diagnose problems.

Similarly, the digital stethoscope offers more options for the remote provider than the traditional type, Antoniotti said. The doctor listens through headphones that intensify the heartbeat.

"It's better than listening in person, because you can increase the volume, change the tones and you're weeding out all of the peripheral noise," she said.

The promise of telemedicine, however, does not wow everyone. St. Vincent's Parikh says it may be a while, if ever, before telemedicine doctor-patient encounters become routine. An obstacle greater than any technological glitches may intervene.

"Whether telemedicine is something that's absolutely necessary -- the jury's still out," Parikh said. "The components of looking at the patient remotely are already in place. To me, the question is deeper: Whether the patients themselves are truly ready for that type of consultation. . . . I still like to go see my doctor."

The Riley Connections program, however, already has fans. Funded by a \$481,000 government grant, it connects sites in Newburgh, Bedford and Terre Haute with doctors here. The experts can examine wounds from afar and look into patients' ears or listen to their hearts with special scopes.

"Indiana is unique because it's a very rural state. Patients have to make long drives here," said Dr. Jeff Sperring, medical director of Riley Connections. "This is a way to bring them the best of specialty care without having them to make the long drive to Indianapolis."

#### **Follows up medication changes**

Riley child and adolescent psychiatrist Dr. Gina Laite already is sold on telemedicine. Knowing that follow-up visits would require time and gasoline money from families who live far away, Laite was reluctant to schedule face-to-face encounters for quick consults after a child started a new medication. Instead, she had tried to do checkups over the phone, relying on the parents' description to assess whether the child had experienced any medication side effects such as twitches or sedation.

Now, Dr. Laite says, she can ask parents in one of the three sites to pop by their local affiliate for a one- or two-week follow-up.

"It's not a hardship," she said. "Before, I would have probably had to do a lot of work over the phone without being able to see the child or parent."

Snow bearing down on the region might have interfered with the Kargers' recent consultation with Riley's specialists. But the Kargers did not mind the short drive to an examining room at the Deaconess Riley Children's Specialty Center in Newburgh, near Evansville, to "meet" with the specialists in a Riley conference room.

Pediatric nurse practitioner Mike McCarthy could watch as Ted Karger protectively cradled his daughter. The Kargers could see how McCarthy leaned in to the camera, as if to physically reach out to the family hundreds of miles away, and felt comfortable with their choice.

"We want to make sure we're doing everything we can for Katie," Ted Karger said.

At first, the family agreed, it took some time to get used to the cameras. By the end of nearly three hours, the Kargers were old pros.

No one seemed to mind the 180-mile distance or the one-hour time difference until the time neared for Katie, who's had diabetes for five years, to enjoy her mid-morning snack.

Looking at the clock in Evansville, one hour earlier than McCarthy's watch, Katie said, "I wish I could be in Indianapolis so I could eat sooner!"

**Call Star reporter Shari Rudavsky at (317) 444-6354.**

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