

Stay-at-Home Kids

Ohio telemed pilot lets docs in Columbus see babies 50 miles away

The safest ambulance trip is the one that never happens. So among the many benefits telemedicine could hold for the providers and patients of EMS is the prevention of unnecessary transports. Keeping a helicopter grounded or a sick child from being rushed to a big-city specialist could save not only thousands of dollars, but lives as well.

That's one benefit of a new telehealth pilot program in Ohio that lets doctors at Nationwide Children's Hospital in Columbus interface with sick newborns 50 miles away at Adena Regional Medical Center in Chillicothe. Using a powerful broadband network that allows the transmission of streaming high-definition video, neonatologists and other pediatric docs can view patients, x-rays and lab results in vivid detail.

"What it does is eradicate distance," says Stan Ahalt, PhD, executive director of the Ohio Supercomputer Center, which operates the statewide broadband network that enables such advanced applications. "You walk into a room at Nationwide or at Adena, and you're talking to your colleague—it's not quite as if they're sitting there, but it's pretty darn close."

The project was funded under the FCC's Rural Health Care Pilot Program; Ohio got the biggest state share of these monies. It has an advanced infrastructure to work with: Its statewide fiber-optic network for research and education, OSCnet, with 1,850 miles' worth of fiber, connects all the state's hospitals, federal labs, K-12 schools and government agencies, linking them all to Internet2, the national backbone for development of advanced networking applications. This enables advanced collaboration across a range of fronts, including, in the health and medical areas, remote consultation, instrumentation and even robotic surgery.

At Nationwide, doctors can control the Chillicothe cameras remotely, zooming in on problem areas or out for a big-picture



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view. An electronic stethoscope feature lets them hear heartbeats. X-rays can be projected on a smaller screen atop the larger one they're viewing. Retinal scanning could come next.

The videoconferencing project could also be extended to other divisions, other community hospitals, other specialty and teaching hospitals, and potentially, pending another short technology leap, even into the field. "Ultimately, I don't think there's any reason it couldn't be," says Ahalt, "other than that we have to figure out how to get a fairly high-bandwidth pipe between base stations and an ambulance."

Meanwhile, the hospitals have found a world of benefits.

"In the past, when we'd get a call, they'd end up transporting almost 100% of the time," says Rachel Brown, MD, of

Nationwide's Neonatology section. "It can be really difficult to describe some of these things over the phone. But when we see the baby, we can get a lot more information, and that helps keep the kids there who can stay there."

That keeps beds open at Nationwide for children who are truly sick. It spares families unnecessary travel or separation from their sick child. And if a child is transported, of course, staff there have a better idea what's coming, and can thus better prepare. The system also lets family back in Chillicothe stop by Adena to stay in remote contact.

Says Ahalt: "It's one of those things that, when you see it, you realize the technology has some social implications that are profound and quite wonderful."

For more: www.osc.edu; www.nationwidechildrens.org; www.adena.org.