

Updated: Nov 29, 2007 - 11:01:07 am CST

NIU-led network to aid rural hospitals

By Dana Herra - Staff Writer

NAPERVILLE - By 2011, a doctor at a rural hospital in downstate Illinois should be able to get a real-time consultation from a specialist at a large Chicago hospital by using a fiber-optic communication network linking health care providers and universities throughout the state.

The fiber-optic project, called Illinois Rural HealthNet, was announced at a news conference at Northern Illinois University's Naperville campus Wednesday. The network will be built using a \$21 million grant from the Federal Communications Commission, and will extend from Galena to Metropolis.

NIU's Broadband Development Group spearheaded the initiative. The group is a department within the university that specializes in broadband technology.

"To say I'm overjoyed with this announcement is a mild understatement," said Roger Holloway, president of the Illinois Rural Health Association. "(Small hospitals) may have the ability to buy the most current CAT scanner, but they don't have the ability to send those scan images to a radiologist 30 miles away. This will allow us to do that."

Rural health care providers are often faced with a lack of resources and specialists, Holloway said. Using a standard hospital Internet connection, it would take five days to send a CT scan image to another hospital. Images transmitted on the high-speed fiber-optic network can be received in less than five minutes, he added.

Holloway gave a hypothetical example of a small hospital that receives a patient with head trauma in the middle of the night. With the use of the high-speed network, not only can doctors get a neurosurgeon's opinion on whether the patient should be flown out to a trauma center, but doctors at the trauma center can already have the patient's scans and medical information in hand before the patient arrives.

The network will also allow telepsychiatry to make huge strides, said Michael Flora, chief executive officer of Ben Gordon Center in DeKalb. The mental health center has one of only a few certified child and adolescent psychologists in the state, he said, and the real-time interface the network provides will allow her to have face-to-face conversations with children hours away.

"Whether it's consulting on a suicidal patient in an emergency room or a dementia consult across the street, we can address those needs without leaving the office and the patients in the waiting room," he said.

The initial phase of the project will entail laying fiber-optic cable, setting up wireless

transmitters in areas where cable is not cost-effective and networking the 85 participants together. That phase is expected to cost about \$25 million, NIU Associate Vice President for Information Technology Wally Czerniak said. Dollars not covered by the federal grant will probably be raised through state grants or participating hospitals and universities, he said.

“I think eventually you will see every hospital and clinic in the country connected by (broadband Internet),” he said. “That’s really the vision of this federal grant. ... The people who invented the wheel can now share it.”

The grant is designed to provide \$7 million per year for three years, Czerniak said. The northern half of the network should be online within about 18 months, and the entire network should be operational by the end of the three years. Czerniak estimated it will cost about \$3 million per year to maintain the network, which he expects to expand to include more health care providers as time goes on.

Dana Herra can be reached at dherra@daily-chronicle.com.

Potential benefits of IRHNet

Here are a few applications of telemedicine:

--Emergency medicine: Will allow rural doctors treating difficult trauma cases to consult with specialists throughout the state. The specialists can view the patient's latest scans, X-rays and lab results within minutes.

--Specialized medicine: Patients can undergo diagnostic tests at their local hospital, and the results can be reviewed by a specialist at a larger hospital in real time. If a patient requires treatment at a distant hospital, follow-up visits can be conducted via video chats with their doctor after they have returned home.

--Psychiatry: Doctors can treat patients in under-served remote areas via secured connections between private rooms with digital cameras and screens. Psychiatrists can also be made available to people in emergency rooms, prisons and nursing homes instantly.

--Home monitoring: In the near future, patients could be monitored at home. For example, heart patients could have factors like blood oxygen levels reported from home every day, alerting their doctor to potential problems before they become serious.

Source: Northern Illinois University news release