cilities in places where there is no pediatric cardiologist."

And it has proved cost-effective. According to an article in *Telemedicine Today*, the program saved $86 000 in airlifts in its first 33 months, or twice the cost of the service. "There are other reasons for avoiding air transport," Finley adds. "It can be dangerous to move sick newborns around."

Finley says the same principles apply to transmitting digitized echocardiograms on the TeleHealth network. "The advantage is that it is much, much cheaper," he says, "but the disadvantage is the images have to be broken up. If this cannot be done with a rapid enough processor, then you lose some image quality.

"We don't want to say this is definitely a replacement until it's proven. Nobody has had the 2 technologies up and running at the same time. What we're going to be doing is comparing them side by side."

Finley stresses that TeleHealth should be reserved for urgent cases and outreach medical teams should continue to handle elective cases. "People should look at [telemedicine] not as a panacea but as an interesting way of trying to deal with our problems of geography and distribution of medical services, specialist services particularly."

"This is a technology we are looking forward to," says Dr. Mitchell Zelman, a consulting pediatrician and vice-chief of staff at Queen Elizabeth Hospital in Charlottetown. "Like any new technology, however, the right checks and balances have to be in place."

Zelman would like to see "some sort of triage mechanism" to ensure that only appropriate cases are discussed on the TeleHealth network. He also wants to make sure that proper referral lines are followed and that local physicians who may "miss out on a learning experience" aren't bypassed. "This is another example where the primary health care provider could be left out of the loop. We need to make sure that there's good communication on all sides."

Ruby Blois agrees. "We don't want to change existing referral patterns. We want to encourage appropriate referral patterns within the Maritimes."

Blois says the goal is to expand the TeleHealth network to include all "relevant" regional centres. "I remain optimistic," she says. "In terms of our Maritime mandate, this is a win-win for children and families." ❓

Teleradiology: first Grand Manan, then the world

New Brunswick is taking telemedicine seriously, the head of radiology at the Saint John Regional Hospital says. "Telemedicine is a very cost-effective tool with tremendous applications in rural Canada and rural New Brunswick," says Dr. Michael Barry.

"In rural New Brunswick, it will lend itself to teleradiology very, very nicely, and the government has acknowledged that by appointing a telemedicine officer for the Department of Health."

Since the fall of 1995, Barry has been running a teleradiology project at his hospital, which receives about 100 x-rays a month from Grand Manan, an island in the Bay of Fundy.

Accessible by ferry, the island has only 1 family physician to serve 3000 residents. "Grand Manan is very vulnerable to weather in winter," Barry says. "It has very real problems getting reasonable access to health care."

Barry says that with telemedicine — and NB's upgraded telecommunications system — it takes less than a minute to transmit digitized x-rays, which meet guidelines established by the American College of Radiology.

"We do every x-ray imaginable — skulls, chest, ankles, spines — everything that plain radiography can do," Barry says of the $100 000 computer-based system, developed by TecKnowledge Healthcare Systems of Halifax.

His hospital faxes back x-ray readings within 24 to 48 hours; the turnaround time used to be 7 to 14 days. "If you're reading an x-ray that's 2 weeks old, it's not much good for acute injuries," he says. "This is the way service should be — 24 to 48 hours like any major hospital. [Grand Manan] could just as well be across the hall as 100 km away."

Barry says the project has already started to prove its worth. In the first 8 months it saved 2 air evacuations, which cost thousands of dollars.

Still, rural radiologists fear they may pay a price when telemedicine expands. "One of the concerns in rural areas is that it will put the small, single radiologist out of business, that everything will be [sent] to bigger centres, particularly with regionalization.

"I don't think there's any replacement on the ground for those radiologists," Barry stresses. "This will not replace a radiologist — this will [provide] support."

The next step for Saint John Regional is an imaging network in radiologists' homes so they can receive diagnostic images from emergency and intensive care departments during on-call hours. Barry, who was testing CT scans at home last, says the network will expedite admission and discharge decisions and move patients through emergency more quickly.

"We think this is the first of many applications," he says of the Grand Manan project. "We believe there is an international market here."