

Canada produces its first MD specializing in telemedicine

Lolita Osorio

In brief

ORIGINALLY DR. ROD ELFORD HAD PLANNED to pursue a career in sports medicine. An introduction to space medicine and the possibilities inherent in telemedicine changed all that, and last year he became the first Canadian physician to complete a clinical fellowship in this emerging field. Observers think he is likely to be the first of many.

En bref

LE D^R ROD ELFORD AVAIT PRÉVU À L'ORIGINE faire carrière en médecine sportive. Une initiation à la médecine spatiale et aux possibilités de la télé médecine l'a fait changer d'idée. L'année dernière, il est devenu le premier médecin canadien à terminer un stage de recherche clinique dans ce nouveau domaine. Les observateurs sont d'avis qu'il ne sera sans doute pas le dernier à s'y intéresser.

Have a talk with Dr. Rod Elford before taking any bets on which direction medicine is headed. "In the future 20% of all health care will be done via telemedicine," says the St. John's family physician, the first Canadian doctor to complete a clinical fellowship in this emerging field.

Since he graduated from the University of Calgary with a degree in physical education and kinesiology, this 30-year-old Calgary-born physician has carved out a unique career path, which has taken him to the world's oldest telemedicine centre at Memorial University in St. John's.

Telemedicine — the use of communications and information technologies to deliver health services and exchange information over distance — was originally developed in the 1950s and '60s. Over the past decade interest has grown due to technologic advances such as fibre optics, integrated service digital networks and video compression. Just 5 years ago, there was only 1 telemedicine centre in Canada; today there are 22 programs.

Telemedicine continues to narrow the gap between urban and rural populations, and Canadian surgeon Robert Patterson, who recently completed a fellowship in medical informatics at the University of Utah, says this means health care will become more accessible.

"In the next few years telemedicine has the potential to play a key role in affecting the health, health care and health care delivery systems in Canada," adds Dr. Penny Jennett, who was recently appointed head of the Health Telematics Unit at the University of Calgary.

When Rod Elford entered medical school at the University of Alberta in 1989, Memorial University still had the only telemedicine centre in the country and only a handful of Canadians had pursued careers in this still relatively new field. Elford had no plans to add his name to that short list — he wanted to be a sports-medicine specialist.

All that changed, however, when he was accepted into the International Space University (ISU) summer session in space sciences in 1991. This marked his introduction to telecommunications technology as it applied to the National Aeronautics and Space Administration and other space agencies.



Features

Chroniques

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Dr. Rod Elford: pioneer in an emerging field



The family medicine residency program at the University of Calgary was Elford's next stop. The university had recently launched a telemedicine pilot project, called the Remote Consultative Network, and he hopped aboard.

In 1993 the ISU invited him to be a guest lecturer and assist on design projects. It was here that his contact with world-renowned experts in telemedicine prompted a more serious pursuit of formal training. He eventually secured funding from the Alberta Heritage Foundation for Medical Research (AHFMR) for a 2-year clinical fellowship.

This involved work with "3 of the key telemedicine people in the world": Dr. Max House, the now retired founder of Memorial's Telemedicine Centre, Dr. Jay Sanders, president of the American Telemedicine Association, and Dr. Steinar Pedersen of Norway, president of the International Society for Telemedicine.

Memorial's telemedicine department served as home base and agreed to grant Elford a master's degree in community health, which was completed concurrently with the telemedicine fellowship.

"Due to the newness of telehealth as a separate field of study, the AHFMR had just made the fellowship opportunity available the year Dr. Elford became eligible to apply," says Dr. Jennett. "I believe this fellowship is unique."

Fellowships involving medical informatics have been available for some time — they involve the use of computers in medicine — and until recently, says Jennett, telemedicine was often considered part and parcel of those programs.

"There are only a handful of informatics programs in the US and just 1 formal program in Canada," notes Patterson. "Most offer a broad introduction to the subject without an emphasis on any single component. Telemedicine specialization is still relatively rare, and Dr. Elford has wisely positioned himself at the forefront of a specialty that is in its infancy."

In a broad sense, his groundbreaking fellowship involved the design, implementation and evaluation of various telemedicine activities and systems in Canada and internationally. His master's thesis focused more narrowly on child psychiatry, and involved setting up and evaluating a telepsychiatry service linking a child health centre in St. John's to a regional hospital in Corner Brook, Nfld.

More specifically, the fellowship involved work on a number of projects: linking a nursing station in Labrador to regional hospitals, linking the Hibernia offshore oil-drilling platform to the Health Sciences Centre (HSC) in St. John's, completing a cost analysis of transferring "tele-EEG" results from remote communities to the HSC, and facilitating the use of telemedicine obstetrical ultrasound tests.

During his second year of study Elford travelled to Tromsø, Norway, to work under Pedersen at a site renowned for having 1 of the world's most active telemed-

icine networks. This was followed by a brief stint at the Medical College of Georgia.

"I also worked as a consultant for the Canadian Space Agency [CSA], looking at how the different space agencies were using telemedicine and how the agency could begin using the technology for their astronaut program," he explains.

Last summer, with the fellowship completed and a master's degree in hand, Elford accepted a position as assistant professor of family medicine (telemedicine) and associate director of research and development at Memorial's Telemedicine Centre. Since then he has co-founded Digital Telehealth Incorporated, a company specializing in multimedia health education and telehealth applications, and has worked as a telemedicine consultant for the State of Washington Board of Health.

He continues to work with the CSA and is currently evaluating whether the partners involved in the international space station project are interested in creating a space telemedicine network that would help provide medical care for the station's astronauts. "There is interest," he says.

What does the future hold for Elford? "It's hard to say," he says. "I'm interested in setting up telemedicine networks [in developing countries] and in rural and remote areas of Canada, particularly Northern Canada."

In the meantime, he spends half his work time on university-related projects, with the rest divided between clinical work in family or emergency medicine, usually in rural communities where he's hoping to create a telemedicine program. He also serves as a telemedicine consultant.

Patterson says that as telemedicine enters the mainstream, many other doctors will follow Elford's lead. Elford says this growing interest is already apparent. "I've had 3 physicians work with me since the fall of 1997 — 1 from St. John's, 1 from Scotland and 1 from Winnipeg. Four other doctors — from Ottawa, France, India and South Africa — have called me because they are interested in doing an elective here this year."

Two other people have also expressed interest in doing fellowships, he says, but this may prove difficult since no formal program exists and the fellowships would all have to be custom designed.

"You need a lot of perseverance," he advises. "Telemedicine is still new enough that a lot of people don't understand what it is or how it could be beneficial. We need to keep educating people and convince them this is an area they should be funding."

Elford is the first Canadian physician positioned to explore the pursuit of the telehealth fellowship opportunities, says Dr. Jennett. "I was once told that, in medicine, you become famous by being the first or being the best," adds Rob Patterson. "Here's hoping that Dr. Elford becomes well-known for both those reasons." ?