

Telemedicine provides new dimensions in CME in Newfoundland and Labrador

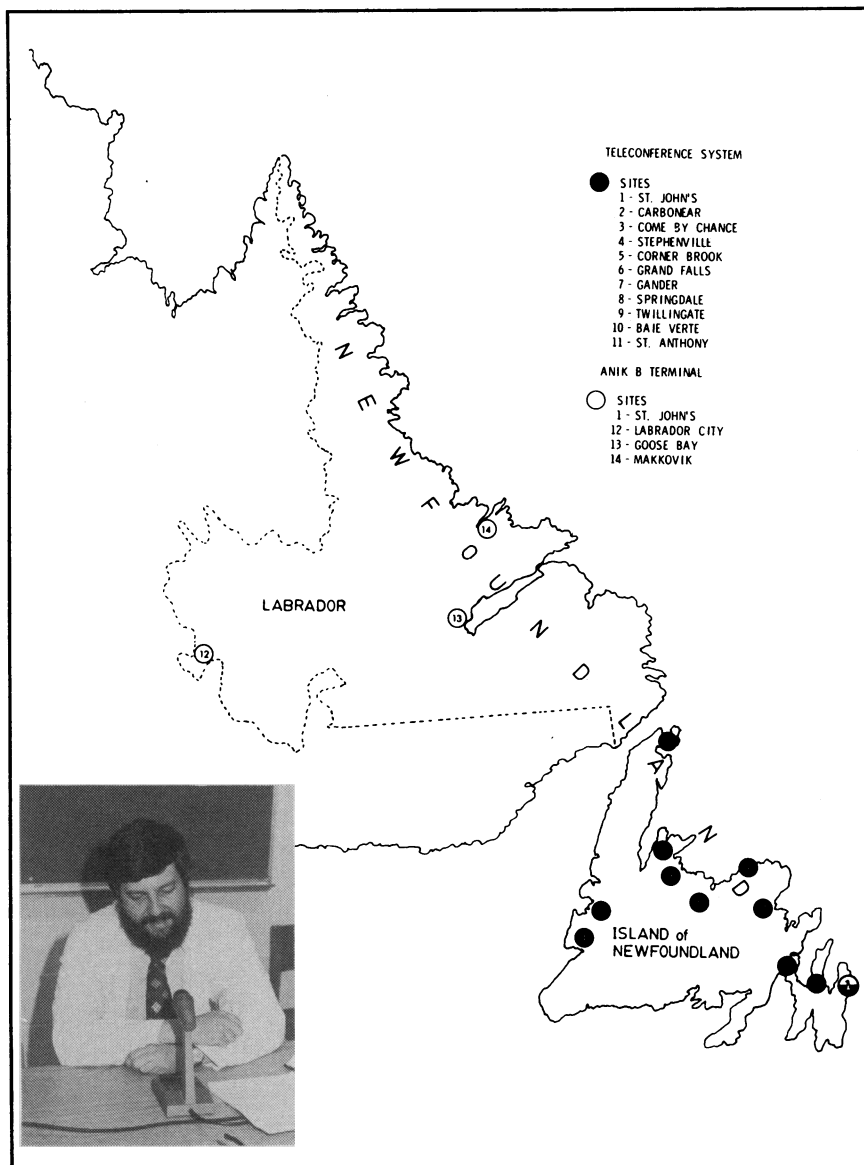
A.M. HOUSE, MD, J.M. ROBERTS, E.M. CANNING

Distances between central and peripheral areas have always made communication for physicians in Canada difficult. Physicians located in the more remote parts of the country do not have convenient access to programs such as continuing medical education (CME), find it difficult to participate in committee meetings of organizations such as their provincial medical association, and cannot readily consult their colleagues about patient problems. One recently introduced answer to these difficulties is using telecommunications.

Since 1972, Memorial University of Newfoundland's Faculty of Medicine has participated in a series of research projects using television, videotapes, interactive audio systems and slow scan television. The most recent of these projects, funded by the federal Department of Supply and Services and the Department of National Health and Welfare, is a multipurpose teleconference system (TCS) linking several hospitals and health agencies throughout Newfoundland and Labrador.

The authors are in the Faculty of Medicine, Memorial University of Newfoundland. Dr. House is assistant dean of continuing medical education.

Reprint requests and correspondence should be addressed to: Miss J.M. Roberts, Telemedicine and Health Office, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Nfld. A1B 3V6



Conferences link physicians in remote areas.

The TCS works like a modified telephone party line, with groups of physicians in different hospitals using microphone and speaker equipment instead of a telephone. To supplement the interactive audio system with visual materials, copies of audiovisual or written supplementary materials are prepared in advance and circulated to TCS site coordinators at each of the 12 hospitals outside St. John's. If motion is necessary, a videotape can be produced, copied and circulated.

Variety of CME activities

TCS is used for a wide variety of CME activities. The continuing medical education office in the Faculty of Medicine organizes a weekly hour-long program each Wednesday at noon. Topics are chosen in consultation with the target audience at planning meetings held on the system. TCS therefore facilitates assessment of needs and physician participation in the planning process. A tutor in these series generally offers three sessions on topics within his specialty and uses a format that alternates short didactic segments with interactive discussion periods. Research conducted at Memorial University of Newfoundland and elsewhere has shown that these teleconferences are as effective as classroom teaching.

In addition to the Wednesday noon series, TCS has given physicians the opportunity to participate in the weekly pediatric and ambulatory rounds at the Janeway Child Health Centre. All these sessions are designed for physicians in general practice. Other sessions are offered for various specialty groups such as pediatricians, pathologists and nuclear medicine specialists.

As of June 30, 1980 (the most recent date for which statistics are available) 135.5 hours of CME had been offered in the system's first 9 months of operation.

Physicians who have to miss programs can listen to them later by requesting that the TCS office tape record and replay a session on the system at any time. If appropriate consent procedures are fol-

lowed, this taping facility can also be used to pre-tape inserts for a session. The various sites are linked by dedicated telephone lines leased from Newfoundland Telephone Company or by telephone channels provided through terminals and spacecraft facilities in the federal Department of Communications' Anik B program. The university's participation in the latter is facilitated by the Educational Television Centre's technical staff.

Technical equipment in the TCS office allows ordinary dial telephone lines to be bridged into the dedicated system as needed for particular programs. Therefore, any individual with a regular telephone can participate in a session for only the cost of a long distance telephone call. This feature has permitted special programs to be organized such as one recently when pathologists at four or five TCS sites were linked to a program sponsored by the American Society of Clinical Pathologists. Originating in Missouri, the session used teleconference equipment in Denver, in Colorado and in St. John's. The 3-hour program used pre-circulated slides and written materials, and allowed 20 Newfoundland pathologists and physicians to participate in an international symposium with more than 500 registrants.

The teleconference system was designed to carry committee, association and other administrative meetings, as well as CME programs. By June 30, 1980, there had been 210 hours of such programming.

The Newfoundland Medical Association has used the system for various committee meetings. Committees of the Canadian College of Family Physicians have also been able to conduct province-wide meetings without members having to travel. Staff of the TCS office meet twice weekly on the system to coordinate the scheduling and programming of sessions with local site coordinators in all participating institutions.

The budget for the system is met through contributions from all hospitals, associations and agencies using it. The Royal College of Physicians and Surgeons of Canada

have supported grants to promote programs for specialists, and the Department of Supply and Services and the Department of National Health & Welfare Canada contributed to the Anik B project.

System use reflects this multifaceted support. TCS is available to all hospital-based groups for education and administrative purposes. University use comes primarily through the division of part-time credit studies, which has already offered three courses and plans to teach three more in the winter of 1981. The fact that the system is available 7 days a week increases its use and therefore decreases the cost to any one group. This shared financing has allowed the system to make the transition from an externally funded research project to a self-supporting operational service within 1 year.

Plan to extend service

Planning is well advanced for expanding both the number of sites and the type of programming. In December 1980, the network was extended to vocational schools in seven of the communities. (The system was originally designed so that up to three buildings per community could be included.) These additions will expand use by both the university and the College of Trades & Technology in St. John's. Several of the community hospitals in smaller places will be added in 1971. Now that substantial use has developed in the larger hospitals, it is feasible to include smaller ones. Such an expansion is of interest to the provincial Department of Health, which is responsible for the smaller hospitals.

In future, the system may be used to transmit medical data and allow consultations. Slow scan television has been installed in the Jackman Hospital in Labrador City. Roentgenograms, electrocardiograms, and photographs of lesions will be transmitted to support audio consultations with staff in the emergency department of the Health Sciences Centre. Another pilot study is demonstrating the feasibility of transmitting electroencephalograms. ■