Research in FOCUS on Research

Centre for Rural and Northern Health Research

Chemotherapy Closer to Home

A Network of Clinics

For many patients in northeastern Ontario, the nearest cancer treatment centre — the Northeastern Ontario Regional Cancer Centre (NEORCC) in Sudbury — is a long way from home: for example, Sudbury is 460 km from Kapuskasing and 530 km from Wawa. It was felt that patients would be better served if they had access to chemotherapy treatment in or near their own community.

Under formal agreement with NEORCC, 19 community hospitals throughout northeastern Ontario *(see map on page 3)* set up community oncology clinics in the mid-1990s. They form the Community Oncology Clinic Network (COCN) Program, which is coordinated by a liaison nurse at NEORCC. Most of the 600,000 residents in northeastern Ontario now live within an hour of travel time to NEORCC or one of the clinics.

After being diagnosed with cancer, all patients have their first appointment at NEORCC. If chemotherapy is indicated and the patient lives more than 50 km from NEORCC, the medical oncologist may give the patient the option of undergoing chemotherapy treatment at one of the community oncology clinics. COCN patients can choose to receive their first chemotherapy treatment at either NEORCC or their community oncology clinic. In either case, the patient returns periodically to NEORCC (or to one of the peripheral clinics in North Bay and Timmins) for follow-up visits. The chemotherapy orders are processed by NEORCC pharmacists.

Under the supervision of a physician in the COCN patient's community, the chemotherapy treatment is delivered by Community Chemotherapy Nurses (CCNs) in the community clinic. NEORCC provides training, support and direction to these clinic practitioners.

The number of patients taking advantage of the COCN Program has increased steadily (now over 400 annually, compared to over 800 annually at NEORCC, where the number is also increasing). Are these patients in fact better served by the community clinics than if they were treated only at NEORCC?

This issue of Research in FOCUS on Research is based on the the study, *Impact Assessment of an Outreach Chemotherapy Program in Northeastern Ontario*, conducted by the Centre for Rural and Northern Health Research (CRaNHR), Laurentian University, in collaboration with the Northeastern Ontario Regional Cancer Centre (NEORCC). The authors are: R.W. Pong and A. Irvine of CRaNHR, C. McChesney, C. DesRochers, and A. Valiquette of NEORCC, and H. Blanco of the School of Commerce & Administration, Laurentian University.

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The Impact Assessment

Because little is known about the impact of this outreach program on the patients, providers, and agencies involved, an impact assessment was undertaken by the Centre for Rural and Northern Health Research (CRaNHR) at Laurentian University, in collaboration with NEORCC.

Randomly selected patients were mailed questionnaires about their satisfaction and acceptance of the COCN Program. There were 153 completed questionnaires from patients in the COCN Program and 114 from NEORCC patients, about half of whom could have gone to COCN clinics but chose not to.

In addition, workload data were collected from several groups of NEORCC staff and a series of interviews were conducted about the perceived impact of the COCN Program on their work. Some of the Community Chemotherapy Nurses were also interviewed about how they were affected by the program.

Ultimately, the success of the program will be defined, in part, by the health outcomes of the COCN patients compared with those of the NEORCC patients. This was not part of the impact assessment.

Patient Feedback

Most of the patients have nothing but positive things to say about the COCN Program. There are some criticisms, but many of them come from patients in low-volume clinics.

Travel

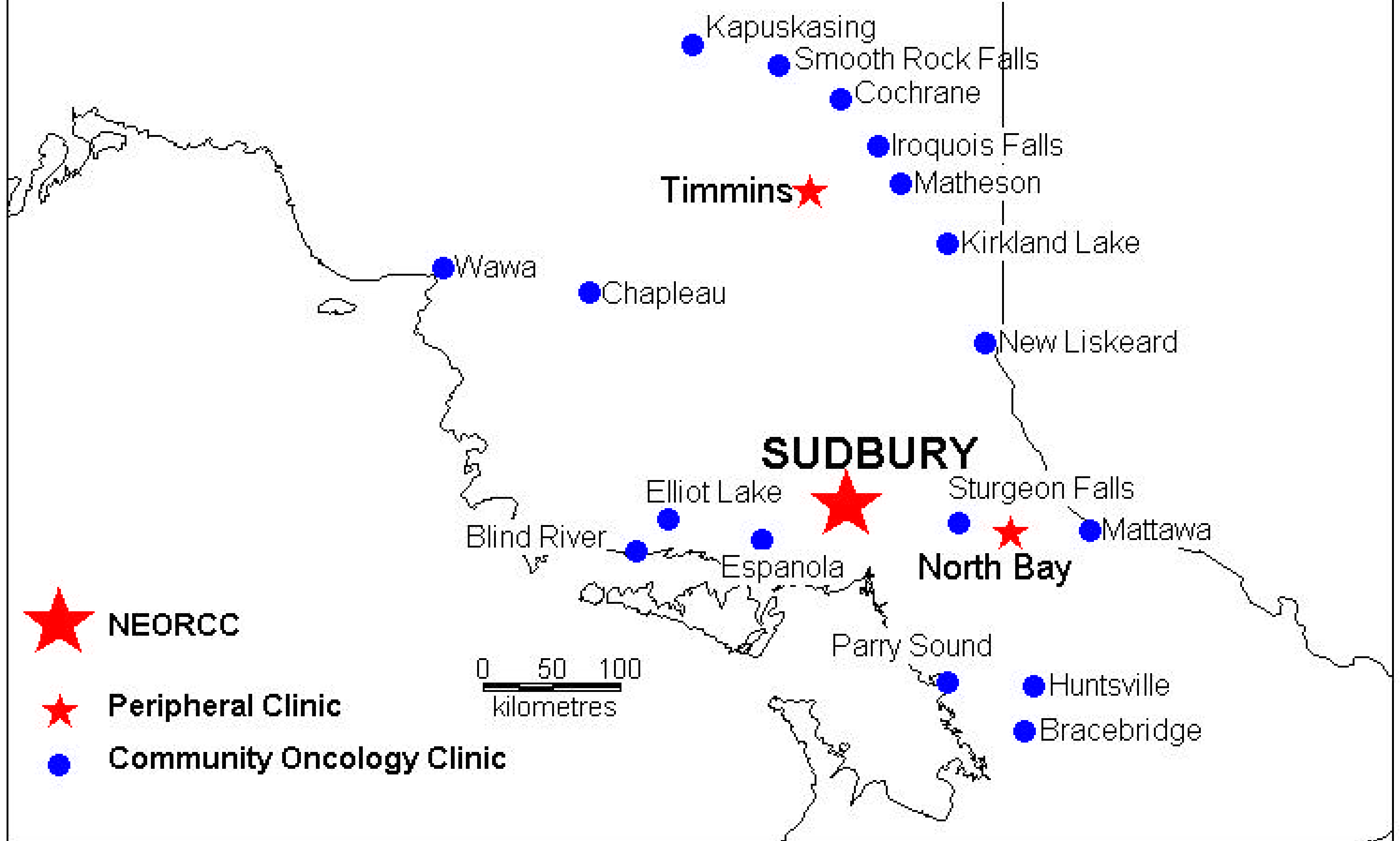
One of the greatest effects on patients is the tangible benefit of reduced travel.

- The main reason patients gave for choosing the COCN Program was that they were able to go home immediately after chemotherapy treatment. This allowed them the support of family and friends in their community during treatment.
- Patients found the travel to NEORCC caused stress and was inconvenient.
- On average, COCN patients saved 4 trips to NEORCC (of the 7 they would have made had they been treated at NEORCC alone). We estimate the saving in out-of-pocket expenses at $524.
- If they drove their own car (as 94% of them did), the estimated saving in direct costs is $1,176.
- 24% of all patients reported they had to take time off work to travel to NEORCC. All COCN patients in this group had to be absent from work for a day or more, while one third of the Sudbury residents taking time off took only half a day or less. Approximately one third of the COCN patients and half of the NEORCC patients who took time off work lost wages (on average, $194 and $175, respectively).
- 90% of all respondents were accompanied to NEORCC by a companion. 51% of the companions with COCN patients and 36% of those with NEORCC patients had to take a day or more off work as well, with just over half of these losing wages as a result (average of $188 for companions of COCN patients, and $144 for those with NEORCC patients).
- The study also calculated the savings to the Northern Health Travel Grant Program of the Ministry of Health and Long-Term Care at $292 per patient, which amounted to close to $80,000 in 1998–1999.

Educational and support care services

Rural patients and residents tend to have less exposure to patient education programs and supportive care services than their urban counterparts. One of the objectives of the COCN Program is to bring cancer-related patient education programs and supportive care services to cancer patients and their families.

- 93% of the COCN respondents who had received their first chemotherapy treatment at NEORCC thought they had been given enough information to prepare them for treatment in their home communities. This dropped to 76% for those who had received their first treatment at a community oncology clinic.
- NEORCC patients tended to have more access to all sources of information about cancer and cancer treatment, but did not necessarily use these sources more frequently than COCN patients. The COCN patients were less satisfied with the sources of information and how well they were kept informed.
- NEORCC and COCN respondents used informal care in their communities equally often. Most patients (85% of those at NEORCC and 68% of those in the COCN Program) felt that there were sufficient supportive care services made available to them.



Quality of care

Overall, both COCN and NEORCC respondents were pleased with the care they had received.

- COCN patients felt closer than NEORCC patients to the staff that treated them.
- COCN patients were more satisfied with the privacy and peace and quiet they had received while undergoing chemotherapy treatment.
- COCN respondents felt they were more involved in decision making related to their own care.
- Chief among the disadvantages of the Program cited by COCN respondents were the lack of cancer specialists in the clinics and the perception that the health-care practitioners in their home towns might not be as up-to-date about cancer treatment as those at NEORCC. About half of those who had received their first chemotherapy treatment at NEORCC said that the treatment skills and knowledge of those at NEORCC were superior to those at the community oncology clinics.
- Those who could participate in the COCN Program but chose not to did so mainly because they felt the quality of treatment and care was better at NEORCC.
- COCN patients were less satisfied with the technical skills and knowledge of the community oncology clinic staff and the way their medical problems were dealt with, especially side effects of the chemotherapy.
- About 45% of the COCN respondents (compared to about 30% of the NEORCC respondents) encountered problems when seeking medical assistance at hospital emergency departments in relation to their chemotherapy treatment.
- 12.5% of the COCN respondents (but none of the NEORCC respondents) indicated that the care they had received was below expectation.
- Those COCN respondents who were least satisfied with their treatment were from clinics that were smaller or had low patient volume. The concerns about maintaining quality of care in low-volume clinics was shared by the practitioners as well.

Impact on Others

Community Chemotherapy Nurses
The CCNs interviewed reported the following:

- The introduction of the COCN Program has served to standardize procedures and protocols.
- It has also enhanced the skills of the practitioners and improved the quality of chemotherapy treatment.
- The program has created a considerable number of administrative tasks for the CCNs.
- Some CCNs have found working with COCN patients emotionally draining.

NEORCC
The workload data collected from the NEORCC staff showed that the COCN Program had an impact on NEORCC in a number of ways:

- After an initial decline in numbers of patients at NEORCC, patient volume has risen and is now greater than before the program was first introduced.
- The COCN Program delivers a greater proportion of Level A chemotherapy treatments (requiring less than 1 hour) than does NEORCC, leaving NEORCC with more of the complex, time-consuming treatments.
- Some 3,300 hours annually of chemotherapy delivery time was shifted to community oncology clinics from NEORCC.
- The Primary Nurses, chemotherapy nurses, and medical oncologists at NEORCC see COCN patients less frequently, but they have more administrative and coordinating responsibilities than before.
- Similarly, the pharmacists at NEORCC do not have to prepare or dispense chemotherapy medications for COCN patients, but their administrative responsibilities have increased.

A Model Program?

The COCN Program should be judged on its ability to provide quality cancer care, to improve the health status and quality of life of the patients, and to reduce mental stress and other negative effects.

The participating patients and those interviewed were invited to make suggestions on how to improve the quality of treatment and services in the program. Their suggestions include:

- Streamlining the administrative processes;
- More educational opportunities for all involved in the care of chemotherapy patients in the community oncology clinics;
- Better and more regular communications between the clinic staff and NEORCC staff; and
- A review of the low-volume clinics.

More research is needed to determine the most effective ways to refine the program.

With further improvements, this program could become a model to be emulated by other cancer centres across Ontario and Canada. The COCN Program also presents a useful model for delivering services in rural areas — similar approaches could be used for other types of health services.

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For further information, please contact:
Centre for Rural and Northern Health Research
Laurentian University
Ramsey Lake Road
Sudbury, Ontario, Canada P3E 2C6

phone: 705-675-1151 ext. 4357
fax: 705-675-4855
e-mail: cranhr@laurentian.ca
URL: www.laurentian.ca/cranhr