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Administering chemotherapy in a rural setting: description of a successful program

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Delivering chemotherapy in a patient's home community, as part of a cancer care program, is described for the town of Sioux Lookout, Ont., 1 of 14 communities in the newly developed Northwestern Ontario Community Cancer Care Program. Elements are outlined that were found to be important for administering chemotherapy in a rural setting, including local requirements, systemic requirements and a well-defined philosophy or mode of operation. Patients benefit from a local cancer care program and so do family physicians, who gain an additional skill set.

On décrit la prestation de services de chimiothérapie dans la communauté d'un patient, dans le cadre d'un programme de traitement du cancer, à Sioux Lookout (Ontario), une des 14 localités participant au nouveau programme de traitement du cancer dans le nord-ouest de l'Ontario. On décrit les éléments jugés importants pour l'administration de traitements de chimiothérapie en contexte rural, y compris les besoins locaux, ceux du système et une philosophie ou un mode de fonctionnement bien définis. Un programme local de traitement du cancer est avantageux pour les patients tout autant que pour les médecins de famille, qui acquièrent des compétences spécialisées supplémentaires.

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The year was 1992. Mrs. H, 58, had recently been diagnosed with stage IIIA breast cancer. Her

mastectomy and staging had been done in her home community of Sioux Lookout, Ont., and everything had run smoothly until it was time for her adjuvant chemotherapy. She had to travel by car every 4 weeks to receive chemotherapy in Thunder Bay, Ont. (a 4-hour drive in good weather). The first cycle was not bad. She had a little nausea, but was able to get home comfortably.

The second cycle was a different story. Despite being given sufficient antinauseant after the chemotherapy, Mrs. H had to stop 3 times at the side of the road to vomit. In addition, the roads were icy; it took her 6 hours to get home. On her next visit to her family physician, she complained, "Why can't this be done here?"

The concept of delivering chemotherapy in a patient's home community as part of a cancer care program is far from new. Comprehensive cancer care has been available in rural areas in many northern US states for years.1 There are rural communities throughout Canada where chemotherapy is delivered, but the literature describes few established chemotherapy programs. Trained family physicians have been administering chemotherapy in rural communities since 1985 within the Manitoba Outreach Program.2 As well, outreach cancer care is administered in rural areas of northeastern Ontario through the Northeastern Ontario Regional Cancer Centre, located in Sudbury.3

This article outlines the elements that have been found to be important for administering chemotherapy in a rural setting. The experience in Sioux Lookout, 1 of the 14 communities in the newly developed Northwestern Ontario Community Cancer Care Program, is described.

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The Northwestern Ontario Community Cancer Care Program

The hub of the Northwestern Ontario Community Cancer Care Program (NWOCCCP) is the Northwestern Ontario Regional Cancer Centre, located in Thunder Bay (herein referred to as the "regional cancer centre"). This regional cancer centre provides cancer care to a geographically massive area (one-third of the landmass of the province of Ontario, stretching from the north shore of Lake Superior, to Manitoba and Hudson's Bay). The region has a population of approximately 250 000. Decentralization of some of the duties of the regional cancer centre to the local communities is an obvious step, given these vast distances.

The NWOCCCP operates as a partnership with the regional cancer centre and the local community hospital. The patient is initially referred to the regional cancer centre, where the

diagnosis is made or confirmed and staging is undertaken if it has not already been done in the local community. A treatment plan is developed by the oncologist in the regional cancer centre and communicated to the local chemotherapy unit and the "designated family physician" in the community. The designated family physician is 1 of 2 family physicians from each community. These physicians have received extra training through the regional cancer centre and are involved in ongoing cancer care education (see "Systemic requirements"). The first cycle of chemotherapy is often administered at the regional cancer centre. Subsequent cycles are then administered in the patient's own community, with communication by fax, email or phone before and after each cycle. Radiotherapy, alone or in conjunction with chemotherapy, is administered at the regional cancer centre. Complications, side effects and blood work are monitored locally, in conjunction with the responsible oncologist from the regional cancer centre.

The philosophy

In order to bring together all the professionals (oncologists, family physicians, nurses, pharmacists) necessary to administer chemotherapy in a rural community, it is important to have a generally understood philosophy. This philosophy, or mode of operation, may be summarized as follows.

- The standard of care must be the same whether chemotherapy is administered in the rural community or at the regional cancer centre.
- Communication on a routine and emergent basis between the community physician and the oncologist at the regional cancer centre must be maintained at all times.
- Education of the community health care workers (designated family physicians, nurses, pharmacists) must remain an ongoing priority.
- Impact on the local hospital services (especially financial impact) should be minimized.

Local requirements

At the community level, the requirements necessary to administer chemotherapy may be divided into two areas: physical requirements and personnel requirements.

Physical

- A clean, comfortable, private area where the patient may receive the chemotherapy
- A type IIb biological fume hood for mixing of the chemotherapy agents (This is often a health and safety issue for the hospital. Generally, manufacturers' recommendations are that chemotherapy agents need to be mixed only in a still-air environment. The mixing instructions for each agent should be checked.)
- Intravenous (IV) pumps
- Access to fax/phone/computer.

Personnel

- Two trained, "designated" family physicians
- Nursing staff trained in chemotherapy (In my community, we have 5 trained nurses, but this number can vary, depending on chemotherapy volume and other duties of the nurses.)
- Pharmacy services for mixing medications and for monitoring. (If a pharmacist is not available, pharmacy technicians can be trained or the physician, in some cases, may mix the agents.)
- Supportive care services (e.g., nutritionist, social work, pastoral care) are helpful.

Systemic requirements

Education: The NWOCCCP, as a system, has done much to fulfill the requirements necessary to administer chemotherapy in the rural setting. The first and possibly most important systemic requirement is education of personnel from the rural communities who will be involved in administering the chemotherapy. Within the NWOCCCP, all nurses who will be administering chemotherapy must take a chemotherapy course. This can be accomplished through distance education. In addition, they must be involved in a practicum with an experienced cancer care nurse at the regional cancer centre. Designated family physicians are invited to educational weekends hosted by faculty from the regional cancer centre and the communities. These funded weekends are held twice a year. There are also monthly teleconferences among all the communities and the oncologists from the regional cancer centre; patients are discussed and educational sessions are presented. Local pharmacists are offered practicums at the regional cancer centre.

In terms of the education of the designated family physicians, it should be noted that great emphasis is placed on how to deal with the complications of chemotherapy, as well as the many issues surrounding its administration. Teaching modules concerning oncologic emergencies have been developed over the past several years through the regional cancer centre. All designated physicians have been exposed to these modules, and each community has copies of them. Designated physicians may use them to teach colleagues, nurses and pharmacists, among others.

Financial: There are few rural hospitals that can afford the chemotherapy agents or the small improvements necessary to run a local chemotherapy program. The NWOCCCP was fortunate to receive initial funding from the Ministry of Health and then the Northern Heritage Fund Corporation. This allowed the program to purchase fume hoods, IV pumps, chemo-chairs and computers for the local hospitals. As well, these monies have been used to purchase the chemotherapy agents that are sent to the local hospital from the regional cancer centre on a patient-to-patient basis.

Communication: There must be well-established 2-way routine communication between the regional cancer centre and the local hospital, so that each facility is aware of what is happening to their shared patient. In the NWOCCCP, the fax has been the mainstay of this routine communication, but email is becoming a more popular form of communication. In addition to routine communication, there must be barrier-free communication between the regional cancer

centre and the local personnel, on an urgent or emergent basis. Physicians or nurses who encounter a problem or have a question while administering chemotherapy must be able to communicate with their more experienced counterpart in the regional cancer centre in a timely manner.

With this seamless communication, evaluation of the NWOCCCP becomes a much easier undertaking. In this program each patient is generally seen by an oncologist before and after his or her entire course of chemotherapy. Also, each chemotherapy treatment is documented and reviewed by an oncologist and a nurse at the regional cancer centre. Feedback is given to the designated physician and the local chemotherapy unit on a regular and as-needed basis. A patient satisfaction survey is in the planning stages for the entire program.

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It is hoped that this article has revealed some of the possibilities for administering chemotherapy in a rural area. The benefits to our patients are obvious. The rural physician accrues an additional skill set while learning more about cancer care that can only assist her or his cancer patients who are not receiving chemotherapy.

Competing interests: None declared.

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References

1. Smith TT, Desch CE, Simonson CJ, Kane NE. Teaching specialty cancer medicine in rural hospitals: a cancer outreach program as a model. J Cancer Educ 1991;6(4):235-40.

2. Rusthoven JJ, Wodinsky H, Osoba D. Canadian cancer care: organizational models. Ann Intern Med 1986;105(6):932-6.
3. Closer to home. Internal Report. Thunder Bay (ON): Northwestern Ontario Regional Cancer Centre and Centre for Rural and Northern Health Research; 1999 Dec.
4. Gautier M, Ross J, Sutton L. Duke Oncology Outreach Service — model for state of the art oncology care delivered to rural populations [abstract]. Proc Annu Meet Am Soc Clin Oncol 1997;16:423a.
5. Bryant B. Strategies increase access to care in rural areas [letter]. Oncol Nurs Forum 1993;20(9):1436.
6. Nemecek A, Schipper H. Chemotherapy outreach: a team approach. Dimens Health Serv 1990;67(2):29-31.

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