Aboriginal Women's Health

Enhancing Access to Care Through Technologic Innovation

by Pamela Orr, Bruce Martin, Wendy Smith, and Fernando Guijon

Pour avoir accès aux centres médicaux spécialisés, les femmes autochtones du Nord qui sont atteintes de cancer doivent se déplacer vers le sud. Conséquemment, ces femmes sont isolées de leurs proches et cela s'avère très couteux financièrement et émotionellement. Cet article décrit la mise sur pied d'un programme de diagnostiques et de traitements des problèmes reliés au cervix dans la région centrale de l'Arctique canadien. Les auteur(e)s parlent entre autres des innovations techniques qui permettent aux femmes de recevoir des traitements plus près de chez elles.

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Treating cancer in women living in remote Arctic regions has previously required multiple visits to specialized medical centres in southern Canada. This requires a separation from families, friends, and community supports, resulting in significant medical, emotional, and economic costs. In the Keewatin District of the Canadian Central Arctic, a program for the diagnosis and therapy of cervical disease has been established using innovative technology to provide improved care closer to home.

The Keewatin District comprises the seven communities of Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet, Baker Lake, Repulse Bay, and Coral Harbour; the settlement of Sanikiluaq is in Hudson Bay (Figure 1). The total population of the region is 5,292, of which 91 per cent are Inuit (Moffatt *et al.*). Women comprise 48.6 per cent of the population. Forty-eight percent of individuals in the region are less than 18 years of age, with only six per cent over 55 years. In a recent survey of the health status of the people of the Keewatin District, half the men and two-thirds of the women surveyed reported an annual income, after deductions, of less than $10,000 (Moffatt *et al.*).

Primary care in each community is provided in Health Centres by local nurse practitioners and travelling family physicians who make monthly visits to each settlement from Churchill, Manitoba. Secondary and tertiary hospital care are provided by family physicians (including authors Wendy Smith and Bruce Martin) in Churchill and by consultants (including Pamela Orr and Fernando Guijon) based in Winnipeg, Manitoba. Hospitalization rates for women and children are two to three times the comparable rates for Canada as a whole. Obstetric and gynecologic conditions are the leading cause of hospitalization for women.

Northern health: the need for community based care

The integrity of the family in northern Canada has been challenged over the past three decades by stresses which include the loss of traditional lifestyle as well as economic dependency. The provision of health care in clinics and hospitals that are often far from home has also placed a strain on the family by removing from the community individuals who require specialized technology for diagnosis and treatment. While health workers may regard the referral of northern patients to centralized facilities as essential for the provision of quality medical care, the patients themselves often view such travel as disruptive, and in some cases, of questionable value (O'Neill *et al.*).

The application of innovative medical technology, however, may relieve strains that have been put on patients and their families by providing more resources in home communities. Improvements in the equipment and techniques used for the investigation and management of cervical cancer provide one example of how medical innovation can enhance access to health care for northern women.

Cervical cancer in northern women

Cervical cancer behaves as a sexually transmitted disease. A growing body of evidence implicates human papillomavirus (HPV) as the primary cause of this condition. Exposure to this virus, and possibly to other agents, during sexual intercourse at an early age, or through multiple sexual partners, may be the key biological event.

In the North, primary efforts aimed at preventing cervical cancer have focused on education and "safe sex" counselling. Secondary prevention involves screening women at regular intervals with the Papanicolaou (Pap) smear—a simple test involving the removal of cervical cells for examination under a microscope. The Pap smear test detects abnormal or cancerous cells within the lining of the cervix, before surrounding tissues are invaded. Women with abnormal Pap smears are referred to specialized medical centres for treatment.

The Churchill colposcopy program

The interest of the authors in developing a program for the diagnosis and management of cervical disease in Inuit women grew from our recognition of both increasing rates of disease in this population, and an increasing local demand for community based health care. In 1990 the Keewatin Health Status Assessment Study (Moffatt *et al.*) identified perceived deficiencies in the availability of community health screening, promotion, and education programs, as well as in the number of health care workers living in the communities. Cancer of the cervix was identified in the study as a condition for which increased screening would likely result in improved health of Keewatin women.

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Over the past decade, comprehensive community based screening for cervical cancer has been provided by nurse practitioners who obtain Pap smears on all women according to published guidelines (Miller *et al.*). The smears are read by trained pathologists at the British Columbia Cancer Agency, where a cancer registry is maintained. Traditionally, women from the Keewatin District with abnormal Pap smears were referred primarily to Winnipeg for biopsy. Return visits to Winnipeg were arranged for those requiring further treatment. Over a two year period, travel costs for patients in the Keewatin District who required investigation and treatment of cervical cancer exceeded $200,000. What have not been quantified, however, are the monetary and emotional costs incurred through separation of the patient from her family and community, as well as the anxiety generated by travel, delays in diagnosis, and the provision of health care by those who may be unfamiliar with Inuit culture. Although efforts are made to provide culturally appropriate care in Winnipeg, it is unknown whether these factors may have contributed to a reluctance among Inuit women to seek care in the past. Compared to non-Aboriginal women, Aboriginal women in other regions of Canada have been found to have more advanced cervical disease when they are first diagnosed (Band *et al.*). This observation raises the questions of whether the virus acts differently in Aboriginal women,or whether there are social and cultural "barriers" to diagnosis and care for this disease (Peters *et al.*).

In response to these concerns the authors, with the assistance of the Churchill Health Board and the University of Manitoba, developed a cervical cancer program at the Churchill Health Centre in October 1993. A treatment suite was established within the existing outpatient clinic of the local health centre.

The Churchill program was set-up to reduce the number of out-of-town hospital visits required to effectively deal with cervical cancer. The program combines diagnosis and treatment by using a procedure called colposcopy and electrosurgery large loop excision of the transformation zone (LLETZ). This procedure involves examining the cervix with a colposcope, an instrument which acts like a telescope to allow the doctor to see the cervix more clearly. After anaesthetizing, or "freezing," the cervix, the doctor can remove the abnormal tissue with an electrified wire loop. The tissue is then sent to Winnipeg where it is examined to determine if the abnormality is malignant. In many cases, no further treatment is required—all is accomplished in only one visit. In a few, more serious cases, a follow-up colposcopy might be necessary.

Patients referred to the Churchill program included women with a new diagnosis of cervical abnormalities on Pap smear, and those with previous diagnoses of cervical disease who required follow-up. In Churchill they were enrolled in an education program, using videos, pamphlets, and counselling sessions with Inuit translators and health advocates, in order to provide information regarding the causes, diagnosis, and treatment of cervical disease. Colposcopy was performed on all patients by a visiting consultant gynecologist (Fernando Guijon) with training in colposcopy, assisted by a local family physician (Wendy Smith).

Program results

Between October 1993 and March 1994, 31 Inuit women from the Keewatin were seen in Churchill for colposcopy. Six women required cervical biopsy directed by the colposcope in order to assess the presence or absence of disease, and nine women underwent LLETZ therapy for cervical cancer identified with the colposcope. There were no significant procedure-related complications, such as excessive bleeding, noted among the women seen. All patients were able to return home on the next available flight, and none required referral for further specialized care in Winnipeg.

The initial capital costs of upgrading and purchasing equipment for the program was $27,600. During the first six months of clinic operation, the savings in commercial air travel for patients was $32,800, representing the difference in airfare from Churchill to Winnipeg. A further savings of $7,000 was estimated due to decreased necessity for return visits to Churchill made possible through the use of the LLETZ technique of combined diagnosis and therapy. The savings in physician costs as well as patient accommodation were not calculated. Non-monetary benefits due to improved patient satisfaction with care have not been quantified as yet. However, the initial response of our patients to the program has been appreciative and supportive.

Future directions

The Churchill colposcopy program has brought cost-effective and culturally-appropriate health care for cervical disease closer to the Inuit women of the Keewatin. However, more recent advancements in diagnostic technology since the inauguration of our program have suggested the possibility of further decentralization of care through the provision of colposcopy in a woman's home community. Portable colposcopes and electrosurgical generators are now available which can be transported to remote areas. Improved screening of women in their communities may also be achieved through cervicography. This technique involves taking sharp photographic images of the cervix, which are then sent for review by a colposcopist trained in this procedure. Along with Pap screening, cervicography would identify women who require referral for colposcopy with or without biopsy or LLETZ electrosurgery.

The Churchill model for the investigation and management of cervical disease in Inuit women of the Keewatin may be applicable to women of other northern and remote regions. It is hoped that through such efforts, the incidence of cervical disease will decrease in these populations. However it is likely that a reduction in the incidence of this disease will require increased primary prevention through the modification of sexual behaviour of women everywhere and their partners. In the Keewatin innovative and culturally appropriate education and counselling methods, including the use of comic books, theatre, radio and television programs in the local language (Inuktitut), have been developed in order to explore issues of sexuality and sexually transmitted disease.

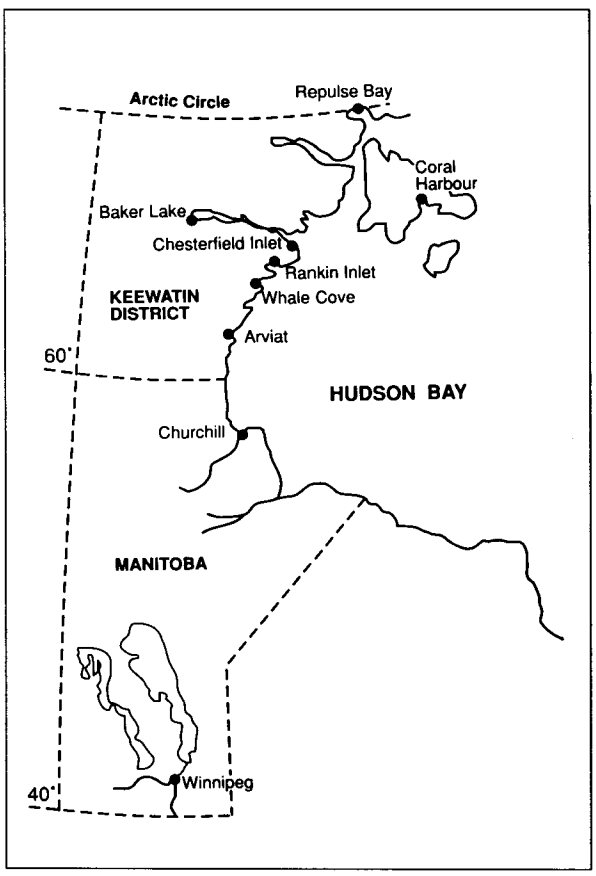

Fig. 1. Manitoba, Hudson Bay and the Keewatin District of the Canadian Northwest Territories

The Inuit women of the Keewatin are increasingly voicing their concerns regarding reliance on southern hospitals for health care (O'Neill *et al.*). The dependency and loss of control that such reliance engenders are perceived as having a negative effect on self-esteem, the integrity of the family, and community involvement in health promotion. In Canada's northern communities health care providers must meet the challenge of returning control and access to care to the communities served. Although the need for medical technology for diagnosis and treatment has traditionally required travel of northern patients to southern health care facilities, the Churchill program represents an example of technology harnessed in order to provide improved care closer to home.

Drs. Orr, Martin, Smith, and Guijon are physicians who work with the J.A. Hildes Northern Medical Unit of the University of Manitoba. They have worked as clinicians and researchers in many regions of northern Canada, and are currently involved in projects to enhance access to health care in Aboriginal communities.

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