Who provides follow-up care for patients with early breast cancer?

ANDREW WORSTER, MD, CCFP(EM)
MARJORIE L. WOOD, MB, CHB, MCLSC
IAN R. MCWHINNEY, MD, FRCP
MARTIN J. BASS, MD, MSC

OBJECTIVE To assess how often family physicians are involved in posttreatment care of their stage I breast cancer patients and to identify factors associated with family physicians providing follow-up care.

DESIGN A retrospective cohort study with a 5-year follow up by chart review.

PARTICIPANTS All cases of breast cancer seen at the London Regional Cancer Centre between 1982 and 1987 were reviewed to identify 183 stage I cancer patients alive at 5 years.

MAIN OUTCOME MEASURES Whether a physician (other than an oncologist) was involved in the follow-up care of patients, and whether the physician was a family physician or a surgeon.

RESULTS Follow-up care during the 5-year postoperative period was provided in most cases by oncologists alone (66.7%); family physicians and surgeons were involved in 17.5% and 15.8% of cases, respectively. Surgeons became involved in follow-up care much earlier (12 months) than family physicians did (23 months) ($P = 0.01$) and were more likely to provide care for patients who received radiation treatment ($P = 0.04$) and for patients who lived in London ($P = 0.004$). Most malignant breast lesions (77.5%) were discovered by patients themselves ($P = 0.0001$).

CONCLUSIONS Currently, family physicians are infrequently involved in follow-up care of their patients with early breast cancer.

OBJECTIF Évaluer la fréquence d'implication des médecins de famille dans les soins post-traitement de leurs patientes porteuses d'un cancer du sein de stade I et identifier les facteurs associés aux médecins de famille qui assurent le suivi.

CONCEPTION Une étude rétrospective par vérification des dossiers d'une cohorte de patientes suivies pendant cinq ans.

PARTICIPANTES Révision de tous les cas de cancer du sein vus au London Regional Cancer Centre entre 1982 et 1987, ce qui a permis d'identifier 183 patientes atteintes de cancer au stade I encore vivantes après cinq ans.

PRINCIPALES MESURES DES RÉSULTATS Vérifier si un médecin (autre qu'un oncologue) était impliqué dans le suivi des patientes et si ce médecin était un médecin de famille ou un chirurgien.

RÉSULTATS Pendant la période postopératoire de cinq ans, la plupart des patientes furent suivies exclusivement par les oncologues (66,7%); les médecins de famille et les chirurgiens furent impliqués dans 17,5% et 15,8% des cas respectivement. Les chirurgiens furent impliqués beaucoup plus précocément (12 mois) dans les soins de suivi que les médecins de famille (23 mois) ($p = 0,01$) et plus susceptibles de suivre les patientes traitées par radiothérapie ($p = 0,04$) et celles qui demeuraient à London ($p = 0,004$). La plupart des lésions malignes du sein (77,5%) furent découvertes par les patientes elles-mêmes ($p = 0,0001$).

CONCLUSIONS Actuellement, les médecins de famille sont rarement impliqués dans le suivi de leurs patientes atteintes de cancer du sein au stade précoce.

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Dr Worster *was Chief Resident at the Victoria Family Medical Centre in London, Ont, at the time of writing.*
Dr Wood *practises family medicine and is an Assistant Professor in the Department of Family Medicine;*
Dr McWhinney, *a Fellow of the College, is Professor Emeritus in the Department of Family Medicine; and* **Dr Bass**, *a Fellow of the College, is Director of the Centre for Studies in Family Medicine; all at the University of Western Ontario in London.*
Drs Wood, McWhinney, *and* **Bass** *are associated with the Thames Valley Family Practice Research Unit.*

IN CANADA, BREAST CANCER IS still the most common form of cancer in women and a leading cause of women's deaths.[1,2] The larger number of women over age 50 and more vigilant methods of early detection predispose our aging population to an increased prevalence of this disease in coming years. In an era of limited health care funding, this increased case load will soon strain our cancer care resources.

Stage I ($T_1N_0M_0$)* breast cancer is the earliest form of the disease and hence has the highest survival rate.[3,4] Traditional treatment of stage I breast

** T_1 – tumour 2 cm or less in greatest dimension, N_0 – no regional lymph node metastases, M_0 – no distant metastases*

cancer is either surgery alone or surgery followed by radiation therapy.[5-7] More recently, adjuvant chemotherapy has been used to treat some forms of early breast cancer.[8] Failure of primary treatment (surgery with or without radiation) results in recurrences or metastases in 10% to 30% of cases, 90% of which occur in the first 5 years after treatment.[9,10] A serious risk of recurrence remains, however, throughout a patient's life.[9,11]

Posttreatment follow up of patients with breast cancer has three purposes: to screen for recurrence of ipsilateral disease, to screen for metastases, and to screen for new malignancy in the other breast.[12] Because much controversy surrounds the subject of breast cancer follow up, no consensus on posttreatment follow-up guidelines has been published to date.[9,13] A typical posttreatment follow-up regimen, however, includes history taking, physical examination, complete blood cell counts and liver function tests, and chest radiography and annual mammography.[13]

With this type of follow-up regimen, no special skills or technology preclude family physicians from providing the care.[12,14-16] However, once cancer is diagnosed, many patients become lost to the care of their family physicians and are cared for by oncologists. Although the roles of family physicians in preventing cancer,[17,18] screening for cancer,[19] and providing palliative care to cancer patients[20-22] are well documented, less literature describes their role in posttreatment follow-up care.

A 1986 survey of cancer patients at a regional cancer centre revealed that 43.4% had their family physicians involved in follow-up care and 31.4% had appointments to see their family physicians in the near future.[16] Because these patients had various forms of cancer and were at various stages of the disease, it is difficult to apply these numbers to patients with stage I breast cancer who could be followed by family physicians.

This study was designed to assess how frequently family physicians were involved in posttreatment follow-up care of their patients with stage I breast cancer and to identify factors associated with family physician follow-up care. We hypothesized there would be four such factors: increased patient age, living at a distance from a cancer clinic, having the breast lesion discovered by a family physician, and receiving minimal treatment for the cancer.

METHODS

To minimize observer variability, a single observer reviewed all 1057 charts of patients at the London Regional Cancer Centre diagnosed with breast cancer between 1982 and 1987. Of the cases reviewed, 183 met the following inclusion criteria.

- Patients had stage I breast cancer in one breast only.
- Patients remained alive, free of recurrence or progression of breast cancer (> stage I), and free of any other forms of cancer either before or during the 5-year follow-up period, starting with the initial oncology consultation.
- Patients remained in care for the duration of the 5-year follow-up period.
- Patients had charts that clearly reflected whether a physician other than an oncologist (usually a family physician or surgeon) was seeing them specifically for breast cancer during the follow-up period (this information came from questionnaires sent periodically to attending physicians of patients who were not being seen regularly at the cancer centre).

The following information was recorded for each case:

- chart number, to prevent duplication of data and to assess the reliability of the data collection process by an independent, random chart review;
- date of birth;
- address (town or city); there are nine cancer clinics in the region, and patients were grouped according to

whether they lived within 20 km of any of the clinics;
- who discovered the breast lesion (patient, family physician, breast screening clinic, mammography, or, if none of the above, "information not available");
- treatment (ie, surgery and radiation or surgery alone);
- date of initial oncology consultation (ie, beginning of the 5-year follow-up period);
- collaboration, which we defined as a physician other than an oncologist giving follow-up care during the 5-year period;
- onset of collaboration: the first time a collaborating physician saw a patient for follow-up care; and
- whether the collaborating physician was a family physician or a surgeon.

Table 1. **Breast cancer follow-up care by treatment**

PHYSICIAN PROVIDING FOLLOW-UP CARE	SURGERY AND RADIATION NO. OF CASES (%)	SURGERY ALONE NO. OF CASES (%)
Oncologist alone	88 (70.4)	34 (58.6)
Family physician involved	15 (12.0)	17 (29.3)
Surgeon involved	22 (17.6)	7 (12.1)

$\chi^2 = 8.38$, $df = 2$, $P = 0.015$, $n = 183$.

To assess the reliability of the process, 10 of the 183 cases were randomly selected and reviewed by a second observer. Data thus recorded were then compared with the original data. When the two observers could not agree on interpretation, a third observer made the final decision. We established data-recording guidelines.

The greatest concern about the data source in this study was how frequently the stage of the breast cancer was recorded inaccurately in the chart list and occasionally in the chart. This became apparent early on, and necessitated including a stage-confirmation step (using the pathology report) in the process.

Data collection reliability assessment revealed disagreements in recording "discoverer of lesion" from two of the 10 randomly selected charts and "date of collaboration" incorrectly recorded from one of those charts. There were four errors in recording type of treatment; all four were eliminated, however, by reducing the number of treatment possibilities from eight to two (ie, surgery alone or surgery and radiation).

All information collected was recorded in a coded format and processed using Epi Info version 5 statistical computing software. Probabilities were calculated using Student's t, χ^2, and Fisher's exact tests.

RESULTS

Of the 183 cases we tracked between 1982 and 1992 that met our study's inclusion criteria, 61 (33.3%) were followed by a collaborating physician (ie, a physician other than, or in association with, an oncologist). Family physicians were the collaborating doctors in 32 (17.5%) of the cases; surgeons in 29 (15.8%) (*Figure 1*). Between 1982 and 1987, there was no significant change in the frequency of collaborations ($P = 0.34$). In fact, the frequency of collaborations involving family physicians remained relatively constant ($P = 0.89$), ranging from 12.1% to 23.3%. There was, however, a significant variation ($P = 0.05$) in the frequency of follow-up visits by surgeons, ranging from 4.3% to 30.8%. On average, surgeons became involved in the follow-up care of patients within 12 months of the oncology consultation, whereas family physicians did not become involved until about 23 months after the initial consultation ($P = 0.01$).

Patients ranged in age from 28 to 86 years with a mean of 57.5 years and a median of 58 years. When the median was used to divide the population equally into young and old, no significant difference was found in the frequency of collaborations ($P = 0.96$). Using 69 years as the upper limit of the "young" age group, again, no significant difference ($P = 0.84$) in

frequency could be demonstrated. This was also the case when the population was divided into seven age groups according to decade.

Neither the person nor the method used in discovering the original breast lesion had any statistically significant association ($P = 0.34$) with which physician provided follow-up care. However, patients whose family physicians discovered the breast lesion tended to receive follow-up care from their family physicians ($P = 0.06$). By far the greatest number of breast lesions were discovered by patients themselves ($P = 0.0001$). Of the 142 charts that reported who discovered the lesion, 110 (77.5%) named the patient.

No significant difference in frequency of collaboration was found between care of patients receiving surgery and radiation and those receiving surgery alone ($P = 0.16$). However, patients who received radiation treatment were much more likely to be followed by an oncologist alone than by a family physician ($P = 0.02$) (*Table 1*), and, when collaboration did occur, the collaborating physician was more likely to be a surgeon than a family physician ($P = 0.04$).

There was no significant difference in the frequency of collaborations for patients living within a 20-km radius of any of the nine cancer clinics and those living outside that area. There were relatively more collaborations in follow-up care of patients living in London, predominantly involving surgeons ($P = 0.004$) (*Table 2*). The chart review revealed that two London surgeons in particular had patients assessed postoperatively by an oncologist with the expectation of all concerned that patients would return to them for follow-up care. (This practice was probably due to the surgeons' special interest in the disease and explains why the surgeons collaborated sooner than the family physicians. It also explains the more frequent collaborations for patients living in the city.)

DISCUSSION

This study has shown that family physicians in London, Ont, were infrequently involved in posttreatment follow-up care of their patients with stage I breast cancer. Although we demonstrated that patients receiving radiation treatment were less likely to be followed by family physicians, we were unable to identify any factors indicating that patients were likely to be followed by family physicians.

Table 2. **Breast cancer follow-up care by patient residence**

PHYSICIAN PROVIDING FOLLOW-UP CARE	IN LONDON NO. OF CASES (%)	OUTSIDE LONDON NO. OF CASES (%)
Oncologist alone	18 (51.4)	104 (70.3)
Family physician involved	5 (14.3)	27 (18.2)
Surgeon involved	12 (34.3)	17 (11.5)

$\chi^2 = 11.05$, $df = 2$, $P = 0.004$, $n = 183$.

Chart review data are dependent on recording accuracy and completeness. The importance of recording accurate staging, management, and follow-up information on patients referred for breast cancer in order to have meaningful reports has been recognized.[23] Chart information errors arise from omission, ambiguity, and inaccuracy. Reliability can be further compromised by observer bias and inconsistency when data are abstracted from the chart.

In our study, absent and ambiguous data were recorded as "unknown." Inconsistency between observers was eliminated by having only one observer; single observer bias and inconsistency were reduced by establishing data-recording guidelines. Determining whether a family physician or a surgeon was involved in follow up was simple because a completed questionnaire or letter would be present in the chart. A shortcoming of the study was failure to record the number of charts that did not meet the inclusion criteria and the reason.

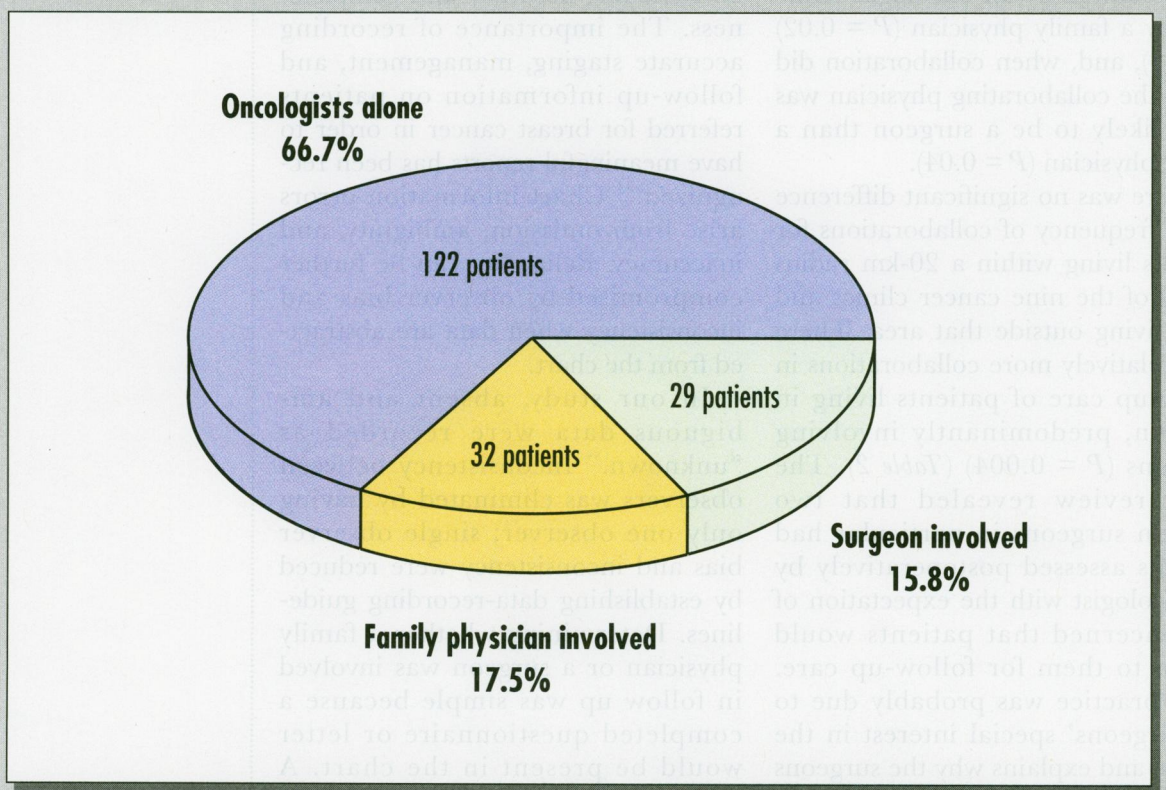
The low frequency of patients with stage I breast cancer receiving post-treatment follow-up care from their family physicians can be explained, at least in part. Several studies have reported the poor communication between primary care physicians and specialists that often precludes successful transfer of patients back to primary care physicians.[14-16]

Family physicians' tendency to provide follow-up care to patients when they had discovered the lesion might be due to the increased confidence of both patient and physician in the physician's clinical skills. The high proportion of stage I breast cancer lesions discovered by patients themselves is probably due to the group's including women who developed symptoms of breast disease, women whose partners discovered the lesion, and women conducting breast self-examination.

Patients treated postoperatively with radiation therapy were much less likely to be followed by family physicians, possibly because they were under the direct care of oncologists for a long time and because they would be followed by oncologists specifically for problems related to radiation treatment. If patients undergoing the new adjuvant chemotherapy also remain under oncologists' care for the same reasons, even fewer patients would receive follow-up care from family physicians.

We expected that, for the sake of convenience, patients residing far from a cancer clinic would be more likely to receive their follow-up care from their family physicians. This was not the case. Although the 20-km limit was

Figure 1. **Physicians providing follow-up care to breast cancer patients, 1982 to 1987**



arbitrary, analysis of the data at different distance limits had no effect on the frequency of involvement of family physicians in follow-up care.

Family physicians follow patients in cooperation with specialists for a variety of illnesses including diabetes and heart disease. There are numerous advantages to having family physicians provide follow-up care for their patients with early stage breast cancer. As primary care physicians, they are typically more accessible to their patients than are specialists. As a result, more frequent visits are easily arranged as needed. Patients come to their family physicians for other medical problems; therefore, treating breast cancer would be in the context of treating the patient as a whole.

Family physicians often also provide medical care to patients' relatives. First-degree female relatives at risk for breast cancer can be more closely followed and family members' concerns more easily discovered and dealt with. A family physician, who has known a patient in her premorbid state, is in a good position to assess (and subsequently manage) the effect the disease has on her and her family and to evaluate how well she is recovering. A patient might also be more likely to express concerns about her marriage and sex life to her family physician than to a physician she has known only for a short time and who provides only specialized care.[14]

Our results clearly indicate that primary care physicians in London are infrequently involved in the follow-up care of their patients with stage I breast cancer. Reports from Alberta and Ontario indicate that this situation is widespread.[24] We have, therefore, an opportunity to include follow-up care of cancer patients in our system of care. To do this, we must cooperate with oncologists in developing concise follow-up protocols and dependable support systems. This can happen only if we can improve communication and collaboration between cancer specialists and primary care physicians. ■

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Correspondence to: *Dr A. Worster, Centre for Studies in Family Medicine, Department of Family Medicine, University of Western Ontario, London, ON N6A 5C1*

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