Care of Cancer Patients in a Home-Based Hospice Program: A Comparison of Oncologists and Primary Care Physicians

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Background. The purpose of this study was to describe a group of patients cared for in a home-based hospice program and to determine if there was a difference in patients' experiences dependent on whether the attending physician was a primary care physician or an oncologist.
Methods. Information about cancer patients admitted to the Burlington Visiting Nurse Association (VNA) Hospice program from January 1986 to December 1990 was reviewed to compare the experiences of the patients of the oncologists with those of the patients of the primary care physicians.
Results. There was no difference in average length of stay or overall ambulatory status between the patient groups. The patient group cared for by oncologists had more hospitalizations than the group cared for by primary care physicians though there was not a significant difference in the percentage of hospital vs home deaths. There was a significant difference between the groups in the use of controlled-release morphine, with oncologists using this approach more often than primary care physicians. Oncologists also had more patients on continuous parenteral morphine infusions during hospice care.
Conclusions. Primary care physicians as well as oncologists provide effective cancer care and pain control in this home-based hospice program. The hospice interdisciplinary team can be a valuable resource for physicians in supplying information on appropriate narcotics dosages and routes of administration for their dying patients.

Key words. Hospice, quality of care. *J Fam Pract 1992; 34:170-174.*

Over the past 15 years the hospice movement in the United States has grown rapidly. Many patients with advanced cancer who previously would have spent their final weeks of life in a hospital are now being cared for in their homes. The development of hospice programs was motivated in part by the dissatisfaction of health care providers and recipients with the management of terminal illness in the traditional acute and curative care system.[1] In a hospice program, the emphasis is on symptom control and improving the overall quality of life, rather than reversal of the basic disease process. The Medicare hospice benefit provides more comprehensive home services to the terminally ill elderly patient in the end stages of the disease.[2]

One of the goals of hospice care is to allow a patient in the terminal phase of an illness to be cared for and die in the comfort of his or her own home.[3] A second important goal of hospice care is to achieve adequate pain control for cancer patients. In the past 20 years many reports in the medical literature continue to indicate that physicians are hesitant to use adequate doses of narcotics to relieve pain.[4,5] Though the multiple dimensions of human suffering make clinical research in the hospice setting difficult, a third goal of all hospice programs should be to carefully study the quality of care provided to the terminally ill. General quality of care studies in the home-based hospice setting are still limited in number.[6] The National Hospice Study is the largest prospective review of specific hospice-related outcomes.[7]

Hospice programs use interdisciplinary teams of professionals to provide feedback to attending physicians and concentrate on the family rather than the individual as the unit of care.[8] The attending physician plays a pivotal role in the overall hospice care and is required to sign the care plan developed in conjunction with the interdisciplinary team. Since a prognosis of 6 months or less is one of the admission requirements for hospice

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Submitted, revised, November 14, 1991.

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ISSN 0094-3509

care, the majority of patients in hospice programs are those with terminal cancer.[9] One way to determine the effectiveness of the interdisciplinary team approach is to compare results among the patients of physicians who are more or less experienced in cancer care. The purpose of this study was to determine if there was a difference in the experiences of a group of hospice patients dependent on whether the attending physician was a primary care physician or an oncologist.

Methods

Cancer patients admitted to the Burlington Visiting Nurse Association (VNA) Hospice program from January 1986 to December 1990 were included in the study population. The VNA Hospice, a comprehensive home health agency-based hospice program, began in 1980 as one of the original National Hospice Study[7] demonstration sites. In 1984 the Burlington VNA Hospice was certified to provide the Medicare hospice benefit.

Hospice care is provided by visiting nurses who are in turn supervised by a hospice interdisciplinary team and an attending physician. The hospice team consists of the VNA Hospice director, two medical directors, two nurses, a social worker, clergy representative, and hospice volunteer staff. The team meets once or twice weekly to review the progress of all current hospice patients. Decisions about treatment plans, including hospitalization, are made by the patient's individual attending physician with recommendations from the interdisciplinary team. Patients are allowed to choose whichever attending physician they desire for their hospice care. Though primarily a home-based program, the Burlington VNA Hospice has a contractual arrangement with two hospitals to provide inpatient hospice services when necessary. The policy of the hospice team in pain control issues is to recommend regular dosing of analgesics and to increase the dose until pain is controlled as determined by the patient. If side effects are encountered, the analgesic is changed or the mechanism of delivery is adjusted. In the case of narcotics, this might mean a change from oral administration to subcutaneous infusion.

During hospice care a flow sheet is compiled by the medical directors. Most pertinent diagnostic and therapeutic information is entered on this record. When the patient dies, the form is completed and summarized by a member of the hospice team. Pain control for the total hospice care period is evaluated as good, fair, or poor by the medical directors. This summary of information is entered in the hospice computer record by the team's medical director. After the medical information is added to the hospice computer record, the system's search capabilities enable the user to find specific records, create lists, and sort information. This is a vital part of establishing a quality assurance program and compiling research data.

Table 1. Cancer Type in Hospice Care

Type of Cancer	Patients Cared for by Oncology Physicians (n = 118) No. (%)	Patients Cared for by Primary Care Physicians (n = 104) No. (%)
Lung	28 (24)	29 (28)
Colon	15 (13)	17 (16)
Breast	20 (17)	3 (3)
Prostate	9 (8)	9 (9)
Female genitourinary	10 (8)	3 (3)
Brain	5 (4)	7 (7)
Renal	2 (2)	10 (10)
Other	29 (24)	26 (25)

The patient characteristics and outcomes of those cared for by oncology physicians and those cared for by primary care physicians were compared. The admission criteria established by the Burlington VNA Hospice are the same for all patients referred to the program regardless of the attending physician's specialty. The patient characteristics studied included age, ambulatory status at the time of admission, cancer type, and sites of metastases. The outcomes measured for patients in the two groups were length of stay, site of death, number of hospitalizations, use of oral narcotics, use of parenteral narcotics, and effectiveness of pain control. The data for analysis of these characteristics were compiled using the hospice computer system. When appropriate, discrete variables were compared using Pearson chi-square analysis.

Results

There were 104 patients cared for by 45 primary care physicians and 118 patients under the care of 10 oncologists. The average age of the primary care patient group was 70 years, and the average age of the oncology patient group was 64 years. The primary care physician group included 14 family physicians, 29 internists, and 2 classified as "other." Lung, colon, and breast cancer were the most prevalent cancer types encountered during the study period (Table 1). As expected, the types of cancer

Table 2. Sites of Cancer Metastases

Site of Metastases	Patients Cared for by Oncology Physicians (n = 118) No. (%)	Patients Cared for by Primary Care Physicians (n = 104) No. (%)	*P* Value
Bone	61 (52)	37 (36)	.016
Brain	21 (18)	16 (15)	NS
Lung	26 (22)	22 (21)	NS
Liver	31 (26)	27 (26)	NS
Other	29 (25)	32 (31)	NS

Note: Cancer metastasized to more than one area of the body; therefore, the total number of sites does not match the total number of patients.

Table 3. Use of Selected Oral Narcotics in Hospice Care

Narcotic	Patients Cared for by Oncology Physicians (n = 118) No. (%)	Patients Cared for by Primary Care Physicians (n = 104) No. (%)	*P* Value
Methadone	2 (2)	5 (5)	NS
Controlled-release morphine	58 (49)	32 (31)	.005
Oxycodone	50 (42)	43 (41)	NS
Codeine	16 (14)	16 (15)	NS

most amenable to chemotherapy (breast cancer, small-cell lung cancer) were found in the oncology practice more commonly than in the primary care practice. Thirty-nine percent of the oncology patients were ambulatory at admission to the hospice program, and 38% of the primary care patients were ambulatory. The comparison of metastatic sites for the two groups of patients appears in Table 2. More oncology patients had bone metastases than did primary care patients.

The average duration of hospice care for the oncology patients was 47 days and for the primary care patients was 48 days. There were seven hospital deaths among the primary care patients, and the average age of these patients was 55 years. There were 13 hospital deaths in the oncology patient group and their average age was 58 years. This difference was not significant. There was a small difference ($P = .08$) in the total number of hospitalizations for the patients of the oncology physicians when compared with the patients of the primary care physicians. The oncologists admitted 18 of the patients in their study group (15%) to the hospital during their hospice care and the primary care physicians admitted 8 of the patients (8%) in their study group. The intensive use of home services to avoid costly and unnecessary hospital admissions is a commitment of the Burlington VNA Hospice.

The use of oral narcotics in the hospice setting was similar for patients cared for by oncology physicians and primary care physicians (Table 3). Controlled-release morphine and oxycodone were the most commonly prescribed narcotics by both physician groups. There was a significant difference in the number of patients who received controlled-release morphine between the primary care and oncology physicians. The oncologists had more patients on this type of morphine than the primary care group during hospice care. The oncology physicians also had a larger number of patients on subcutaneous morphine infusions and tended to use higher doses of morphine in their patients (Table 4).

There were 13 patients in the primary care physician group who only had "fair" pain control. Eleven patients in the oncology group were recorded as having had fair pain control and five patients had a "poor" pain control rating. When combined, the primary care physicians had 12.5% patients without good pain control and 13.5% of the oncologists' patients were without good pain control, which was not a significant difference. Overall, 13% of the hospice patients had only fair or poor pain control during their terminal care.

Discussion

Large numbers of patients dying of cancer request hospice care in the home setting from their primary care physicians. In this study those patients who were admitted or died in the hospital tended to be younger and were more likely to be under the care of an oncologist. This could be a reflection of increased disease burden or symptom intensity in the oncology group. The oncology patient group was younger than the primary care physi-

Table 4. Use of Continuous Subcutaneous Morphine (MSO_4) in Hospice Care

	Patients Cared for by Oncology Physicians (n = 118)	Patients Cared for by Primary care Physicians (n = 104)	*P* Value
No. of patients on MSO_4 infusion (%)	37 (31)	21 (20)	.059
MSO_4 dose range (mg/24 h)	12–4320	36–2160	
Average MSO_4 dose (mg/24 h)	640	531	

cian group. Age has been negatively correlated with pain in the National Hospice Study.[10] Another potential explanation is that primary care physicians are better prepared to manage symptoms in the home setting even when a symptom accelerates or a crisis arises. Having the resources to keep patients at home during the terminal stages of their illness is extremely important. Studies on the quality of dying for hospice and nonhospice cancer patients support the concept that being at home and having continuous contact with loved ones are important factors.[11] Even with this knowledge, the majority of terminally ill cancer patients still die in the hospital.[3] Although the decision about where to die is to some degree a reflection of societal values, the ability of home-based hospice programs to provide support to the family increases the likelihood of a home death.

There was no difference in length of stay between patients cared for by primary care physicians and oncologists. There are at least two factors that have an impact on the timing of referrals to a hospice program. Mount[12] states that the pressure to maintain excellence in the midst of increasing medical knowledge focuses the physician toward disease curative skills that are largely irrelevant to patients in the hospice setting. A second reason is the difficulty in assigning a prognosis for many patients.[13] There are no exact physiologic predictors for any terminal illness, and there is always the perceived clinical imperative to maintain patient hope.[14]

One of the most important contributions of the hospice movement is the proof that pain can be controlled for the dying patient.[15,16] In this study both groups of physicians used significant doses of oral or parenteral narcotics to control cancer pain, and 87% of the patients were rated as having achieved good pain control. Continuous subcutaneous infusions of narcotics were prevalent in both physician groups. The use of this delivery mechanism for narcotics as well as other medications is becoming a more widely accepted process in hospice care.[17] Although most primary care physicians have limited experience in this type of narcotic prescribing, the hospice interdisciplinary team provided both primary care and oncology physicians with the information required to use the appropriate dose and delivery mechanisms. Clinical decisions such as increasing an already large dose of morphine or changing to parenteral morphine are reviewed by the hospice team on a regular basis. The hospice program thus serves as a tool to standardize the management of cancer pain among many different providers, thereby improving quality of life of dying patients. In his review of outcomes of analgesic treatment, Max[18] emphasizes the need to organize pain management teams as a method of changing physician behavior.

Since this was not a randomized or controlled study design, there are several potential biases that limit the conclusions that can be drawn. The patients chose their physicians, so there could be systematic differences in each group that affect the study variables. A second factor is that primary care physicians who make themselves available to terminally ill cancer patients may have more interest or knowledge of cancer care than the general physician community. This would tend to reduce the differences noted between the groups. Unfortunately, the highly emotional and private nature of home-based hospice care does not lend itself to more powerful randomized study designs. Therefore, case control or cohort methodology to compare outcomes based on the type of health care provider may be the most appropriate way to examine quality of care issues in a hospice program.

There are several areas of future study that would be helpful to the physician providing hospice care. One is to determine the most important physician characteristics for the patient in choosing a hospice attending physician. Is it more important to know family dynamics or to have specific cancer expertise? A second question is the exact nature of the hospice interdisciplinary team consultation role and how it affects physician behavior. A third question is how best to provide basic knowledge about pain control in the terminally ill to physicians in the community.

In conclusion, primary care physicians should consider a hospice program as an appropriate alternative for their terminally ill patients.

Acknowledgments

The author wishes to thank the members of the Hospice of the Champlain Valley and Burlington Visiting Nurses Association in Burlington, Vermont, for their help in reviewing patient data, and William Wadland, MD, for his assistance in statistical analysis.

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