

# Quality of End-of-Life Care for Cancer Patients: Does Home Hospice Care Matter?

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Persons with metastatic cancer receive multiple services concomitantly during their last 6 months of life.<sup>1</sup> These may include high-technology oncology interventions, such as chemotherapy and radiotherapy, which focus on tumor response, survival, or prolonging life<sup>2</sup>; palliative and hospice services, which are based on palliative principles<sup>3</sup>; and complementary and alternative medicine, which are used by some patients.<sup>4,5</sup> Most patients also see their family physicians, specialists, and consultants, and make frequent visits to emergency departments (EDs); their rate of hospitalization near death is high.<sup>1,6</sup> Given the almost countless types of treatments and service models for those persons, it is important to ask whether home hospice (HH) care makes a meaningful contribution to the quality of life for terminal patients.

There has been increasingly widespread agreement about the indicators of end-of-life quality for patients with metastatic cancer.<sup>7</sup> These indicators refer to both the process outcomes of care, as specified by the World Health Organization definition of palliative care.<sup>8</sup> The most common process indicators are the quality of the management of physical symptoms, such as pain and shortness of breath, and psychological symptoms, such as depression and anxiety.<sup>2,9</sup> Another type of indicator has to do with open communication between the physicians and the patient, including providing information about possible treatments and their prognosis,<sup>10,11</sup> an examination of the patient's preferences for the end of life, and discussion about advance directives. Other indicators relate to care outputs such as aggressive treatment close to death, death in hospital, multiple visits to the ED, and hospitalizations.<sup>1,6</sup>

Over the past several decades, there has been growing evidence of the advantages of palliative care for metastatic cancer patients as a vehicle to supply better quality of care. Palliative care has been proved to more easily control physical and psychological symptoms, increase coordinated care, enhance communication and informed decision making,

## ABSTRACT

### Objectives

Since metastasized cancer patients receive many treatments and services, it is important to ascertain whether home hospice (HH) care makes a meaningful contribution to end-of-life quality for terminal patients. This study examines whether people who had died from metastasized cancer—both recipients of HH care and nonrecipients—were cared for according to palliative indicators and whether HH care made a difference.

### Study Design

Three to 6 months after the deaths of 193 metastatic cancer patients, members of their families were interviewed face-to-face. Information on their loved ones' utilization of healthcare services in the last 2 months of life was retrieved from computerized administrative files.

### Results

The patients' average age was 69.5 years (SD = 13.9), 56% were men, and 21% received HH care. More patients with HH care than without received opiate medication (92% vs 68%, respectively;  $P < .01$ ), appropriate treatment for anxiety (57% vs 30%, respectively;  $P < .01$ ), had advance directives, and received explanations about their rights. Only 5% of HH patients were treated with curative care in the last 2 month of life, compared with 40% of those without HH ( $P < .01$ ). Of those who received curative care, more of them died at home (56% vs 26%, respectively;  $P < .01$ ), and more died at the place of their choice (60% vs 30%, respectively;  $P < .01$ ). No differences were found regarding healthcare service utilization.

### Conclusions

The findings demonstrate the valuable contributions of HH and palliative care. Clinicians should consider referring cancer patients to palliative care services and establishing working relationships with HH and palliative care providers.

*Am J Manag Care.* 2014;20(12):988-992

and provide support for families.<sup>12-15</sup> Studies have also shown better patient and family satisfaction; Temel et al<sup>16</sup> even showed that early integration of palliative care with curative oncologic care resulted in longer survival and meaningful improvements in quality of life and mood. However, several studies have found that the evaluation of HH services is a complicated matter and have cast doubts on the value of its contribution.<sup>12,17</sup> In light of this complexity, it is important to use relevant and defined indicators to examine the end-of-life care of cancer patients and whether or not they are treated through palliative services. Hence, the goal of the current study was to examine whether people who had died from metastasized cancer—both HH recipients and nonrecipients—were cared for according to palliative indicators and whether HH care made a difference.

### Study Design

The study was conducted in the northern district of Clalit Health Services, the largest health plan in Israel, whose members include 70% of the population in the northern district. The health plan supplies community care, which includes family physicians, nurses, home care, an oncology day care clinic, and HH care. There are also 4 small hospitals in the district, which may propose referral to HH care, but the actual referral is at the physician's discretion and depends on his or her awareness of the service and the patient's decision to accept the referral.

Home hospice is a 24-hour service that provides care through a multidisciplinary team that includes physicians, nurses, and social workers who coordinate their work. A member of the team visits the patients' homes at least once a week, and more if needed—even several times every day if necessary. The team supplies symptom management, maintains open communication with the patients and their families, and helps patients to feel confident about remaining at home until death.

The study's target population consisted of 429 individuals who had lived in the community and died of metastatic cancer between January and September 2009. We were able to contact family members of 193 of them (45%) to ask for their approval for the study and to interview them. The reasons for not interviewing included refusal by family members to be interviewed (29%) and having no surviving family members or no surviving family members that we could find (26%). We compared the characteristics of family members who were interviewed and those that refused and found no statistical

### Take-Away Points

- Persons with metastatic cancer receive multiple services concomitantly during their last 6 months of life. Only a minority of them receive palliative and HH care.
- More HH patients than non-HH patients received opiate medication and treatment for anxiety and depression, had advance directives, received explanations about their social and financial rights, and died at home and/or at the place of their choice.
- There were no differences between HH and non-HH patients regarding emergency department visits and hospitalization during the last months of life.

differences regarding gender, age, or population group (Jewish or Arab).

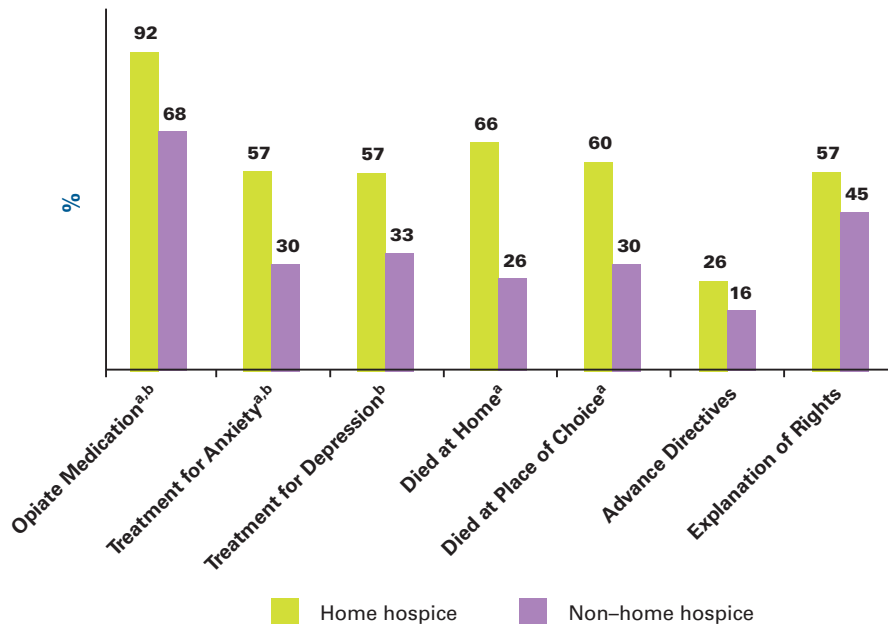
Three to 6 months after a patient's death, we approached a member of the deceased's family and asked permission to conduct a face-to-face interview with the family caregiver, whom we defined as a relative who had lived with the patient and/or provided most of the care without payment, and/or was the contact person with the health system. The caregivers provided written informed consent, after which they were interviewed using a structured closed questionnaire. In addition, we retrieved detailed information on the utilization of healthcare services in the last 2 months of the deceased's life from the health plan's computerized administrative files. This information included hospitalizations, ED visits, chemotherapy and radiology treatments in oncology day care clinics, receiving of HH care, and opiate consumption.

The dependent variables in this study were 4 process indicators as perceived by the family members and 3 outcome indicators. The process indicators were: pain management as an indicator of the management of physical symptoms; anxiety and depression management as an indicator of the management of psychological symptoms; and advance directives and the provision of explanations about the social and financial rights of terminal patients, as indicators of social support and communication. The outcome indicators were: receiving chemotherapy or radiotherapy curative care in the last 2 months of life; death at the place of the patient's choice; and the place of death itself. We also studied hospitalization and visits to the ED in the last 2 months of life as indicators of utilization of healthcare services.

The independent variables were receiving/not receiving HH care and the age, gender, and population group of the patients and of their family caregivers.

The data were analyzed by SPSS (version 19). First, for similarity in background characteristics, we compared patients who had received HH care with those who had not, using a  $\chi^2$  test for gender, birth country, and family relationship with the caregiver, and a *t* test for age. Then we conducted multivariate ordinal logistic regression models

■ **Figure 1.** Care Indicators Among Home-Hospice (HH) and Non-Home Hospice Terminal Cancer Patients



<sup>a</sup> $P < 0.05$ .

<sup>b</sup>In the last two months of life.

to assess the significance of the difference between the 2 groups regarding the process and outcomes indicators, controlling for age, gender, and birth country. A cutoff of  $P \leq 0.05$  determined statistical significance.

The study was approved by the Institutional Review Board of Clalit Health Services, Tel Aviv.

## RESULTS

The average age of the patients was 69.5 years (SD = 13.9); 56% were men, and 44% were native Israelis, of whom 73% were Jews and 27% Arabs. The average age of the family caregivers of the patients was 56 years (SD = 13.9); 69% were women, 42% were spouses of the patients, 51% were children of the patients, and the rest were other relatives.

Twenty-one percent of the patients had received HH care, the average duration being 44 days (SD = 29, median = 40, range = 1 day to 96 days). There were no significant differences in the demographic characteristics (gender, age, Jewish, or Arab) of those who had received HH care and those who had not, nor in the characteristics of their family caregivers (age, gender, and family relationship).

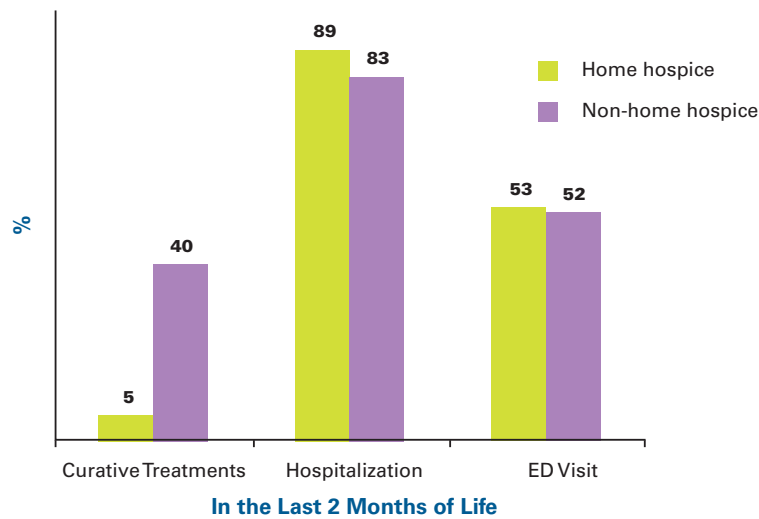
About 92% of the HH patients had received opiate medication during the last 2 months of life, compared with 68% of non-HH patients (adjusted odds ratio [OR], 5.28; 95% CI, 1.79-15.55;  $P < .01$ ) (Figure 1). About 57% of the family members of HH patients reported that their loved ones received treatment for anxiety during the last 2 months of life, com-

pared with 30% of family members of those without HH care (adjusted OR, 3.11; 95% CI, 1.08-8.83;  $P < .01$ ); and 57% reported treatment for depression, compared with 33% of family members of those without HH care (adjusted OR, 2.75; 95% CI, 0.96-7.86, almost statistically significant).

In addition, 26% of the HH patients had advance directives versus 16% of patients without HH (adjusted OR, 2.11; 95% CI, 0.92-4.80, almost significant). About 57% of the family members whose loved ones received HH care reported that they and the patients had received explanations about the social and financial rights of terminal patients compared with 45% of the family members of patients without HH care (adjusted OR, 2.30; 95% CI, 0.91-5.81, almost statistically significant).

Regarding the outcomes of care, only 5% of the HH patients received chemotherapy or radiotherapy curative treatments in the last 2 months of life compared with 40% of the non-HH patients (adjusted OR, 2.28; 95% CI, 1.07-4.84;  $P < .05$ ). In addition, 56% of the HH patients died at home compared with only 26% of patients without HH care. Those who died at home were more likely to have been in HH care (adjusted OR, 3.28; 95% CI, 1.64-6.55,  $P < .01$ ) or to have a woman as their family caregiver at home (adjusted OR, 2.07; 95% CI, 1.07-4.04;  $P < .05$ ) than those who died in hospital. According to 60% of the family members of the HH patients, their loved one died at the place of their choice, compared with 30% with non-HH patients (adjusted OR, 3.62; 95% CI, 1.84-7.14;  $P < .01$ ).

■ **Figure 2.** Utilization of Services Among Home-Hospice (HH) and Non-Home Hospice Terminal Cancer Patients



ED indicates emergency department.

No differences were found between the HH and non-HH patients regarding the utilization of healthcare services. About 89% of the HH patients had been hospitalized during the last 2 months of their life and 53% had visited the ED, compared with 83% and 52%, respectively, of non-HH patients (adjusted OR for hospitalization, 61; 95% CI, 0.28-0.61; adjusted OR for an ED visit, 0.97; 95% CI, 0.95-0.99). Younger age was associated with increased odds of visiting the ED ( $-0.97$ ; 95% CI,  $-0.95$  to  $-0.96$ ;  $P < .05$ ) (Figure 2).

## DISCUSSION

The current study served as a natural laboratory in which some patients who died from metastasized cancer received multiple services and treatments while others received HH care beyond the other services. We had no control over who received HH and who did not.

The study found that HH care had advantages in most process and output indicators; however, the overall picture was not clear-cut. This was reflected in better provision of opiates, more appropriate management of emotional symptoms, and the fact that more patients who received HH care had advance directives and received explanations about their social and financial rights from the HH staff. Regarding output indicators, far fewer HH patients had been given curative or life-extending treatments in the last 2 months of life than non-HH patients, and more of them died at home or at the place of their choice. However, HH care offered no advantage with regard to the use of other health services.

It is harder to conduct a systematic comparison of the results of this study with those of other studies due to

the great heterogeneity in the characteristics of HH services.<sup>12,18</sup> There are several models of HH services, and they differ from one country to another. In addition, some HH units may be part of a comprehensive array of services, while others are free standing consultative services; in fact, many are hospital affiliated, while others offer an independent service.<sup>19,20</sup> The fact that studies differ in their research methods, indicators, instruments, and the characteristics of the study population (eg, time of recruitment to the study before death and the length of stay with hospice care) increases the difficulty of making comparisons.<sup>12</sup> Attrition of patients from the study population is also a problem that makes comparisons of hospice services difficult.<sup>21</sup>

Nevertheless, the findings of this study are consistent with several studies conducted during the last decade that provide evidence of the advantage of palliative services for cancer patients. Some of these studies showed improvement among recipients of palliative care, as opposed to those who did not receive such care for physical symptom management<sup>13,16,22</sup> or for emotional symptom and mood management.<sup>13,16,23</sup> Various other studies found that patients had forgone curative and life-extending treatments at an earlier stage<sup>16,22</sup> and undergone more effective discussions on advance care planning and open communication.<sup>11</sup> However, contrary to our findings, some studies have shown a reduction in the use of healthcare resources, such as ED visits and hospitalizations.<sup>22,24</sup> This difference might be attributable to variations in healthcare delivery systems between counties, the characteristics of HH service, or studies' design or instruments. In addition,

tion, contrary to our results, Rabow et al<sup>22</sup> did not find a significant difference in the location of death between those with and without hospice intervention. This could possibly also be attributed to differences in healthcare delivery systems in Israel and elsewhere.

Our study had a number of limitations that should be noted. First, we interviewed family members, which is a widely accepted method, but were unable to interview the patients themselves.<sup>25</sup> Second, due to the limitations of the data files, it was not possible to obtain precise diagnoses beyond the primary diagnosis of metastatic cancer. Third, the study was conducted in a single region and therefore may not be generalizable, although most metastatic cancer patients have the same conditions in common. Fourth, the length of HH care before death ranged from 1 day (1 patient) to 3 months. Finally, we did not study pure palliative care outcomes, such as satisfaction with care, caregiver burden, or quality of dying.

## CONCLUSION

The findings of this study, like those of some earlier studies, have demonstrated the contribution of HH and palliative care to terminal cancer patients. Therefore, clinicians should consider referring cancer patients to palliative-care services and establish working relationships with HH and palliative care providers. At the same time, there is a need for further rigorously designed studies to demonstrate the outcomes of palliative care on the family caregiver burden, the patient quality of life during the last weeks of life, the quality of dying, and the impact of hospice care in the community on the overall utilization of health services.

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**Source of Funding:** This work was supported with the financial assistance of Guy and Nora Barron.

**Author Disclosures:** The authors have no conflicts of interest to disclose.

**Authorship Information:** Concept and design (NB, RB, TE-T); acquisition of data (NB, TE-T); analysis and interpretation of data (NB, SR, TE-T); drafting of the manuscript (NB, SR); critical revision of the manuscript for important intellectual content (RB); statistical analysis (NB, SR); provision of study materials or patients (TE-T); obtaining funding (NB); and supervision (NB, RB).

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## REFERENCES

1. Earle CC, Neville BA, Landrum MB, et al. Trends in the aggressiveness of cancer care near the end of life. *JCO*. 2004;22:315-321.
2. Earle CC, Park ED, Lai B, et al. Identifying potential indicators of the quality of end-of-life cancer care from administrative data. *J Clin Oncol*. 2003;21:1133-1138.

3. Ferris FD, Bruera E, Cherny N, et al. Palliative cancer care a decade later: accomplishments, the need, next steps. *J Clin Oncol*. 2009;27:3052-3058.
4. Mansky P, Wallerstedt D. Complementary medicine in palliative care and cancer symptom management. *Cancer Journal*. 2006;12:425-431.
5. Molassiotis A, Fernandez-Ortega P, Pud D, et al. Use of complementary and alternative medicine in cancer patients: a European survey. *Ann Oncol*. 2005;16:655-663.
6. Colombet I, Montheil V, Durand JP, et al. Effect of integrated palliative care on the quality of end-of-life care: retrospective analysis of 521 cancer patients. *BMJ Support Palliat Care*. 2012;2:239-247.
7. Pasman HRW, Brandt HE, Deliens L, Francke AL. Quality-indicators for palliative care: a review of the literature. *J Pain Symptom Manage*. 2009;38(1):145-156.
8. Davies E, Higginson IJ, eds. The solid facts: palliative care. Geneva: World Health Organization; 2004.
9. Lorenz KA, Lynn J, Dy SM, Wilkinson AM. Quality measures for symptoms and advance care planning in cancer: a systematic review. *J Clin Oncol*. 2006;24(30):4933-4938.
10. Bradley EH, Hallemeier AG, Fried TR, et al. Documentation of discussions about prognosis with terminally ill patients. *Am J Med*. 2001;111(3):218-223.
11. Wright AA, Baohui Z, Ray A, Mack JW. Associations between end-of-life discussions, patient mental health, medical care near death, and caregiver bereavement. *JAMA*. 2008;300(14):1665-1673.
12. Zimmermann C, Riechelmann R, Krzyzanowska M, Rodin G, Tanock I. Effectiveness of specialized palliative care: a systematic review. *JAMA*. 2008;299:1698-1709.
13. Follwell M, Burman D, Le LW, et al. Phase II study of an outpatient palliative care intervention in patients with metastatic cancer. *J Clin Oncol*. 2009;27:206-213.
14. El-Jawahri A, Greer JA, Temel JS. Does palliative care improve outcomes for patients with incurable illness? a review of the evidence. *J Support Oncol* 2011;9: 87-94.
15. Higginson IJ, Catherine J. What is the evidence that palliative care teams improve outcomes for cancer patients and their families? *Cancer Journal* 2010;16:423-435.
16. Temel JS, Greer JA, Muzikansky A, et al. Early palliative care for patients with metastatic non-small-cell lung cancer. *N Engl J Med* 2010;363:733-742.
17. Higginson, IJ, Finlay, IG, Goodwin, DM, et al. Is there evidence that palliative care teams alter end-of-life experiences of patients and their caregivers? *J Pain Symptom Manage* 2003;25(2):150-168.
18. Sussman J, Barbera J, Bainbridge D, Howell D, Yang J, Husain A. Health system characteristics of quality care delivery: a comparative case study examination of palliative care for cancer patients in four regions in Ontario, Canada. *Palliative Medicine*. 2011;26(4):322-335.
19. Smith TJ, Coyne PJ, Cassel JB. Practical guidelines for developing new palliative care services: resource management. *Ann Oncol*. 2012; 23(suppl 3):70-75.
20. Casarett D, Johnson M, Smith D, Richardson D. The optimal delivery of palliative care: a national comparison of the outcomes of consultation teams vs inpatient units. *Arch Intern Med*. 2011;171(7):649-655
21. Kaasa S, Loge JH. Quality-of-life assessment in palliative care. *Lancet Oncol*. 2002;3:175-182.
22. Rabow MW, Dibble SL, Pantilat SZ, McPhee SJ. The comprehensive care team: a controlled trial of outpatient palliative medicine consultation. *Arch Intern Med*. 2004;164:83-91.
23. Bakitas M, Lyons KD, Hegel MT, et al. Effects of a palliative care intervention on clinical outcomes in patients with advanced cancer: the Project ENABLE II randomized controlled trial. *JAMA*. 2009;302:741-749.
24. Gade G, Venohr I, Conner D, et al. Impact of an inpatient palliative care team: a randomized controlled trial. *J Palliat Med*. 2008;180-190.
25. Lynn J, Teno JM, Phillips RS, et al. Perceptions by family members of the dying experience of older and seriously ill patients. *Ann Intern Med*. 1997;126(2):97-106. ■