

Analysis of Long-stay Patients in the Hospice Palliative Ward of a Medical Center

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Background: The Pilot Project on Per-diem Payment for Inpatient Hospice Services of Taiwan's National Health Insurance Program was begun in July 2000. The project monitors hospices to control for a median length of stay (LOS) of not longer than 16 days to prevent inappropriate stasis in hospices. To determine the best utilization of palliative care, patients remaining in the hospice for more than 28 days were analyzed to discover their characteristics and reasons for not being discharged.

Methods: The study sample included 1,670 hospice patients who were admitted to the Hospice Palliative Unit in Taipei Veterans General Hospital between July 16, 1997 and December 31, 2002. Two hundred and sixty admissions (21.5%) with LOS > 28 days were identified. Further instrument survey of selected items was performed by 2 trained staff via chart review independently. The basic data were analyzed and comparison between long-stay patients and non-long-stay patients was made.

Results: The mean LOS of 1,670 hospice patients was 16.0 ± 14.9 days. Two hundred and sixty-eight patients (16.1%) admitted for longer than 28 days were surveyed. Those who had longer mean survival time, a diagnosis of prostate cancer, a metastatic site in the bone, and readmitted patients were associated with long stay. The study also revealed a significant difference in LOS between fee-for-service (FFS) patients and per-diem payment (PDP) patients (mean LOS, 17.5 ± 16.4 vs. 14.3 ± 13.4 , $p < 0.001$). Conditions of major physical distress on Day 29 were delirium (41.9%), depression and/or anxiety (20.4%), and severe dyspnea (21.2%). The main reasons for being unable to be discharged on Day 29 after admission included "prolonged terminal phase" (34.2%), "difficult symptom control" (25.8%), "placement problem" (16.9%), and "need of parenteral medication" (15.0%).

Conclusion: Better understanding of the factors related to LOS can help staff in the palliative ward of medical centers to identify patients who are apt to have long stay, and shorten their LOS by successfully dealing with their problems. [*J Chin Med Assoc* 2008;71(6):294–299]

Key Words: cancer, discharge planning, hospice palliative care, length of stay, per-diem payment

Introduction

One of the aims of palliative care services is to provide emergency beds for patients with urgent symptom control needs. Due to the constant need of inpatient care, few palliative care units can afford long-stay care. Long stay in the hospice palliative unit of medical centers results in a low turnover rate of beds and thus decreases the chances of admission for patients with more acute symptom problems.¹ Factors associated with long stay include the cancer diagnosis, referral source, gender,

physician specialty, type of insurance, living status, and discharge status.^{2,3} In Taiwan, the first medical center hospice ward was established in 1990. However, the growth rate of these centers has been very low. This is partly because the insurance payment was too small to cover the fee-for-service (FFS) base cost and partly because of the misunderstandings of the medical staff and public. The increasing incentive to provide more services for hospice patients generally comes from higher payment for supportive care and symptom alleviation services; thus, the Pilot Project on Per-diem



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Payment (PDP) for Inpatient Hospice Services of Taiwan's National Health Insurance Program was begun in July 2000. To prevent hospice palliative wards from earning more profit by increasing the length of hospice stay (LOS), the project monitors hospices to control for a median LOS of not longer than 16 days.

Ideally, patients who no longer fit the admission criteria for acute inpatient palliative care should be taken care of at home by family members. The transfer of patients from acute palliative care services to chronic institutions is necessary when the patient is relatively stable, but does not have adequate support at home. However, there are times when care at home or transfer to other chronic institutions is not feasible either, because of inadequate family support or because of the complexities of symptom control in terminal cancer patients. This study examined long stay in the hospice palliative unit of a medical center in Taiwan and identified the possible factors and predictors related to prolonged stay. This study also compared the LOS between FFS patients and PDP patients and found a number of issues requiring further research.

Methods

Taipei Veterans General Hospital, a tertiary teaching hospital with 2,865 inpatient beds, contains 15 beds for hospice palliative care and has provided hospice home care services since July 16, 1997. We carried out a retrospective study in this hospital-based hospice palliative care unit from July 16, 1997 to December 31, 2002. The basic data including demographic characteristics, age, gender, diagnosis, discharge condition, and LOS, which were generated from the hospice database, were analyzed. For comparison with other studies,²⁻⁴ we chose 28 days as the cutoff point between long-stay and non-long-stay cases.

Of the 1,670 terminally ill cancer patients (1,097 men, 573 women) admitted to the hospice palliative care unit during this period, 268 (16.0%) with LOS >28 days were identified; 260 long-stay admissions (8 missing) were further surveyed using an instrument that we developed by expert panel to determine the factors associated with long-term hospice stay. The instrument's survey items included the prevalence of major physical distress and the main reason for being unable to be discharged on Day 29. The chart review was conducted by 2 trained staff. The initial mean agreement on 5 charts between chart reviewers was 61%. A critical review of each discrepancy led to modification of the instrument and clarification of the rules for coding. To test interrater reliability using the finalized survey

instrument, another 8 charts of the study sample were examined independently by both chart reviewers. The mean agreement on the survey items reached 88%.

Since the Bureau of National Health Insurance changed the payment system from FFS to PDP for inpatient hospice services on July 1, 2000, 826 (49.5%) patients admitted after July 1, 2000 were classified in the PDP group and compared with the conventional FFS group.⁵

Data in the text and tables are expressed as mean \pm standard deviation, median, and/or range. Descriptive statistics were summarized as frequencies and percentages for categorical variables; median, mean and standard deviation for continuous variables. We used 2-sample *t* tests to compare the age distributions and LOS. We used Pearson's χ^2 test to compare the sex, diagnosis distributions, and other categorical variables between different groups. For all tests, the difference was considered statistically significant when $p < 0.05$ (2-tailed). Statistical analyses were performed using SPSS version 13.0 (SPSS Inc., Chicago, IL, USA) for Windows.

Results

The mean age of the 1,670 terminally ill cancer patients was 67.6 ± 13.8 years (range, 13–99.6 years). The most common diagnoses were lung cancer, colorectal cancer, hepatocellular carcinoma, and stomach cancer. The most common sites of metastasis were bone (30.8%), liver (27.8%), lung (22.2%), and brain (12.5%). The mean duration from the diagnosis of malignancy to hospice ward referral was 22.6 ± 29.7 months (range, 0–325 months). Most patients (57.5%) were referred from the ordinary ward in the same hospital, and 10.2% of patients were from emergency room referral. Nearly 70% of cancer patients (69.4%) died in the hospice ward, and 103 (6.2%) patients were discharged from the hospice in a terminal state because they preferred to die at home.⁶ Three hundred and twenty-seven (19.5%) patients were discharged to a home care program in stable condition, and 81 (4.9%) patients were transferred to other institutions for chronic care. Readmission to the hospice was noted in 263 (15.7%) admissions. Mean survival after the first hospice enrolment was 32.6 ± 68.1 days (range, 0–1,346 days).

Mean LOS in the hospice ward was 16.0 ± 14.9 days (range, 1–142 days); 268 (16.1%) patients admitted for longer than 28 days were defined as long-stay patients (165 men, 103 women; mean age, 68.3 ± 13.4 years). When compared with non-long-stay patients, long-stay patients had a longer survival between the time of

Table 1. Comparisons of patient profiles between long-stay patients and non-long-stay patients

	Long-stay patients (n = 268)	Non-long-stay patients (n = 1,402)	p
Age (yr)	68.3 ± 13.4	67.4 ± 13.9	0.325*
Gender (% male)	61.6	66.5	0.121 [†]
Time from diagnosis to hospice referral (mo)	27.6 ± 35.8	21.5 ± 28.4	0.023*
Mean survival (d)	63.7 ± 51.6	26.7 ± 69.3	<0.001*
Patient source, n (%)			0.037 [†]
Readmission after hospice discharge	54 (20.1)	209 (14.9)	
Insurance payment, n (%)			<0.001 [†]
Fee-for-service	163 (60.8)	681 (48.6)	
Per-diem payment	105 (39.2)	721 (51.4)	
Discharge status, n (%)			<0.001 [†]
Death in hospice	164 (61.2)	995 (71.0)	
Discharged with terminal status	10 (3.7)	93 (6.6)	
Stably discharged with home care	81 (30.2)	246 (17.6)	
Transferred to another institution	13 (4.8)	68 (4.8)	
Diagnosis, n (%)			<0.001 [†]
Lung cancer	75 (28.0)	331 (23.6)	
Colorectal cancer	37 (13.8)	208 (14.8)	
Hepatocellular carcinoma	24 (9.0)	160 (11.4)	
Stomach cancer	21 (7.8)	161 (11.5)	
Pancreatic cancer	8 (3.0)	79 (5.6)	
Prostate cancer	16 (6.0)	38 (2.7)	
Other	87 (32.4)	425 (30.4)	
Metastasis site, n (%)			<0.001 [†]
Bone	103 (38.4)	412 (29.4)	
Liver	50 (18.7)	415 (29.6)	
Lung	69 (25.7)	301 (21.5)	
Brain	42 (15.7)	167 (11.9)	

*Two-sample t test, 2-tailed; [†]Pearson's χ^2 test, 2-sided.

cancer diagnosis and hospice referral, longer mean survival time, were more frequently among the readmitted patients, less in the PDP group, and were more likely to be discharged to a home care program. They were significantly more likely to have bone metastasis, less likely to have liver metastasis, and were more commonly prostate cancer patients (Table 1). However, age, gender, rate of lung and brain metastases, and other cancer diagnoses were not significantly different between these 2 groups.

The comparisons of patient profiles between FFS patients and PDP patients are shown in Table 2. Age, gender, cancer diagnosis, time of cancer diagnosis and hospice referral were not significantly different between the 2 groups. Around 83.9% of the hospice patients died within 28 days of admission. Because there were many more short admissions (≤ 3 days' admission) in

the PDP group than in the FFS group, LOS in the PDP group was shorter than in the FFS group (mean LOS, 17.5 ± 16.4 vs. 14.3 ± 13.4 , $p < 0.001$). PDP group patients also had a shorter mean survival time, and were more likely to be discharged to another institution.

Excluding the 8 sets of missing data, 260 admissions of longer than 28 days were found and surveyed. The main reasons for not being discharged on Day 29 after admission included "prolonged terminal phase" in 89 (34.2%) patients, "difficult symptom control" in 67 (25.8%), "placement problem" in 44 (16.9%), "need of parenteral medication" in 39 (15.0%) and "incomplete course of radiotherapy" in 21 (8.1%) (Table 3). Among the 44 patients who had placement problems and could not be discharged on Day 29, 16 chronic institution transfers were made, 7 chose to go home for home care program support, 3 moved to another

Table 2. Comparisons of patient profiles between fee-for-service (FFS) and per-diem payment (PDP) patients

	FFS patients (n = 844)	PDP patients (n = 826)	p
Age (yr)	67.3 ± 14.3	68.4 ± 13.0	0.475*
Gender (% male)	67.2	64.2	0.198†
Time from diagnosis to hospice referral (mo)	23.6 ± 33.3	22.1 ± 27.7	0.249*
Mean survival (d)	37.3 ± 83.6	27.9 ± 46.9	0.001*
Mean LOS (d)	17.5 ± 16.4	14.3 ± 13.4	< 0.001*
Distribution of LOS, n (%)			
≤ 3 d	133 (15.8)	174 (21.1)	
4–7 d	134 (15.9)	137 (16.6)	
8–14 d	194 (23.0)	197 (23.8)	
15–21 d	127 (15.0)	122 (14.8)	
22–28 d	93 (11.0)	91 (11.0)	
29–42 d	99 (11.7)	70 (8.5)	
43–56 d	41 (4.9)	21 (2.6)	
> 56 d	23 (2.7)	14 (1.7)	
Discharge status, n (%)			
Death in hospice	587 (69.5)	572 (69.2)	< 0.001†
Discharged with terminal status	56 (6.6)	47 (5.7)	
Stably discharged with home care	180 (21.4)	147 (17.8)	
Transferred to another institution	21 (2.4)	60 (7.3)	
Diagnosis, n (%)			
Lung cancer	189 (22.4)	217 (26.2)	0.056†
Colorectal cancer	130 (15.4)	115 (13.9)	
Hepatocellular carcinoma	91 (10.8)	93 (11.3)	
Stomach cancer	99 (11.7)	83 (10.0)	
Pancreatic cancer	39 (4.6)	48 (5.8)	
Other	296 (35.1)	270 (32.7)	

*Two-sample t test, 2-tailed; †Pearson's χ^2 test, 2-sided. LOS = length of hospice stay.

Table 3. Main reasons for inability to be discharged on Day 29 after admission

Rank	Clinical problem	n (%)
1	Prolonged terminal phase	89 (34.2)
2	Difficult symptom control	67 (25.8)
3	Placement problem	44 (16.9)
4	Need of parenteral medication	39 (15.0)
5	Uncompleted radiotherapy	21 (8.1)

hospice, and 15 patients died eventually at our hospice, with a range of additional LOS of 1 to 114 days (median, 17.0 days; mean, 29 ± 37.1 days).

Conditions of major physical distress on Day 29 of the 260 long-stay terminal cancer patients were delirium (41.9%), depression and/or anxiety (20.4%), severe dyspnea (21.2%), unstable body temperature and/or infection (15.8%), malignant bowel obstruction

Table 4. Prevalence of major physical distress on Day 29

Rank	Clinical problem	n (%)
1	Delirium	109 (41.9)
2	Depression and/or anxiety	53 (20.4)
3	Severe dyspnea	55 (21.2)
4	Unstable body temperature and/or infection	41 (15.8)
5	Malignant bowel obstruction	29 (11.2)
6	Obstructive uropathy and/or hematuria	23 (8.8)
7	Difficult pain control	21 (8.1)
8	Active tumor bleeding	20 (7.7)
9	Intractable ascites	19 (7.3)
10	Malignant ulcer	17 (6.5)

(11.2%), obstructive uropathy and/or hematuria (8.8%), difficult pain control (8.1%), active tumor bleeding (7.7%), intractable ascites (7.3%), and malignant ulcer (6.5%) (Table 4).

Discussion

In our study, long-stay patients had a longer survival from cancer diagnosis to hospice referral, longer mean survival time, more readmitted patients, fewer in the PDP group, and were more frequently discharged for home care programs in a stable condition. Patients with prostate cancer and with sites of metastasis in the bone seemed to have more long stays. This finding was compatible with similar LOS studies.²⁻⁴ This implicates the slow-growing nature of some cancers and the greater hospital dependency due to disability and deprivation of activities of daily living functions resulting from bone metastasis.

Though insurance will reimburse acute hospice care for cancer patients with expected survival time less than 6 months, the majority of patients are not referred to hospice until they are very close to death.⁴ This is why 83.9% of our hospice patients died within 28 days of admission, and around 18.4% died within 3 days of admission (Table 2). Types of insurance payment also affect LOS. When we examined the distribution of LOS, patients in the conventional FFS group were found to have more long stays. This might be because the frequency of short admissions (≤ 3 days' admission) increased from 15.8% in the FFS group to 21.1% in the PDP group.

In the past, if some terminal patients were admitted for short pre-dying care only, they would lose priority in acute inpatient hospice admission to terminal cancer patients who were suffering from acute physical or psychospiritual distress. However, because the outcome of clearly moribund patients was easy to predict, the strategy was changed to fulfill the requirement that a median LOS should be less than 16 days using the PDP insurance system. Some studies^{7,8} confirmed the value of short terminal admissions (death within 48 hours of admission) to patients and families, though hospice staff felt that a number of patients transferred from the hospital should not have been moved. Whether such transfers benefit patients or just increase the stress on patients and their families and the burdens on staff is worthy of further study. Early transfer from conventional care to hospice care should be initiated to overcome barriers to hospice care, and education of physicians and patients about palliative care is needed so that greater numbers of patients can benefit more fully from hospice care at the end of life.

Compared with FFS, PDP offers potential benefits during end-of-life care, including integrated care and appropriate accountability for quality, and reduced financial incentives for nonessential tests and procedures.^{9,10} However, the traits of PDP that may be detrimental to

palliative care include the cost constraints, the conflicts regarding placement, and the devaluation of persons at the end of life.^{11,12} These issues include precipitous readmissions to the hospital for terminal care, and long-stay terminal admissions.¹³

Because of the uncertainty and unpredictability of the course of terminal malignant disease, some lengthy admissions due to a prolonged terminal phase and complexity in symptom control are usually difficult to avoid.¹⁴ In our study, patients and their families were usually compelled by persistent major physical distress, such as unstable body temperature and/or infection, fluctuating delirium, severe dyspnea and recurrent tumor bleeding, to give up their preference for going back home. The prolonged terminal phase observed in patients with malignant bowel obstruction and organ failure usually resulted in lengthy admission. It is obviously immoral to push discharge planning for such moribund patients.¹⁵ van den Eynden et al found that emotional problems considered to play an important role in the decision to transfer and/or regarding the place of death in palliative cancer included anxiety, psychological distress, problem with acceptance, anger and depression.¹⁶ Placement problems and family difficulties were prevalent in our long-stay patients. Though nearly all the patients and families had been told that acute care admission was a short-stay unit, the possibility of impending death appeared to make the reality of this difficult to handle. Patients' concerns about their future care and placement may increase levels of anxiety, and make pain and symptom control more difficult. Some family members expected their relatives to die in the hospital instead of at home, and some patients even said that their final wish was just to die in our hospice unit because of the sense of security and confidence.

In Fainsinger et al's study in 2000,¹⁷ only 24% of patients going to a hospice and 7% of their families preferred home discharge. Functionally dependent and cognitively impaired patients were generally unable to return home. To support the patients and their families in an environment of their choice, access to increased physical support in the home must be addressed. There is also a need to find places of care for terminally ill patients who may require longer-term inpatient stays. Lack of good nursing homes with high palliative care support and placement problems were major issues while the family was deciding on discharge planning.¹⁸ Transfer of a patient from a palliative care unit to a nursing home or other institution may lead to a shortfall in meeting the needs of patients and relatives due to the lower level of specialization than in the palliative care unit. During bereavement follow-up, many

families reported that they felt that transfer to a nursing home was a traumatic experience.^{19–21} Interventions that may enable health professionals to facilitate caregivers to cope more effectively with caring at home, and strategies for enhancing the care quality in chronic specialized palliative institutions should be implemented.

This was a retrospective chart survey, so there may have been some coding errors or misclassifications. Some spiritual and psychosocial problems were also more difficult to explore than the physical symptoms. Though this was a single hospice ward survey, it has revealed general issues in the dilemma of terminal cancer patient placement. Determining the type of palliative care is worthy of further discussion. Should places of care for dying patients be provided, or should more acute medical intervention for symptom control be given? With aging of the population and the increasing incidence of cancer, the need for inpatient palliative care beds is growing, with corresponding pressure for patients to be transferred to other chronic institutions or sent back home. The provision of palliative care that offers a continuity of care should be urgently considered, with some joint funding between the National Insurance Service and chronic specialized palliative institutions. Further study in this area is required if we are to remain committed to the goal of palliative care as the achievement of a possible quality of life for terminal cancer patients and their families.

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