

Palliative terminal cancer care in community hospitals and a hospice: a comparative study

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SUMMARY

Background. Despite palliative care being an accepted role of community hospitals, there is little quantitative evidence of the type of care provided.

Aim. To obtain quantitative data comparing palliative cancer care provided in 12 community hospitals in 10 towns (approximately 350 medical beds) and in a consultant-led purpose-built hospice (12 beds).

Method. Retrospective medical and nursing case note analysis over one year of cancer deaths in the former Exeter Health District.

Results. A total of 171 community hospital and 116 hospice casenotes were analysed. Hospice patients had significantly different reasons for admission compared with community hospital patients ($P < 0.001$), with pain and symptom control being more frequent and terminal nursing care less frequent reasons for admission to the hospice. Community hospital length of stay was significantly longer than hospice length of stay ($P = 0.002$; mean community hospital stay 16 days, mean hospice stay eight days). Symptoms on admission differed significantly. Drug prescribing on admission and at death and indications of active treatment of symptoms were broadly similar. Community hospital patients received more investigations than hospice patients, linked to the observation that around one in ten community hospital patients were admitted for investigation and active treatment. Community hospital medical notes were significantly less likely to meet minimum quality standards than were hospice notes (81/171 vs. 18/116; $P < 0.001$), with major deficiencies in the areas of examination, progress reporting, and absence of confirmation of death.

Conclusions. This study confirms the role of community hospitals in palliative terminal cancer care. Differences in care between community hospitals and a hospice have been demonstrated that may reflect either different admission populations to each setting or differences in the way care was delivered.

Keywords: palliative care; cancer; community hospitals; hospices.

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Introduction

A recent survey indicates the existence of around 400 community hospitals with approximately 14 000 beds in the United Kingdom (personal communication, Community Hospitals Association). The lack of scientific research concerning the role of community hospitals has been acknowledged,¹ especially with regard to the care of cancer patients.² It is tacitly assumed that terminal cancer care is part of the role of community hospitals, and yet little is known about the magnitude of the workload, the quality of care given, and the advantages of the community hospital setting over other contexts of care.

Previous work in the study area indicated a substantial workload of terminal cancer care in community hospitals, with significantly fewer cancer deaths occurring in district general hospital beds where community hospital beds were available to general practitioners (GPs).² However, no attempt to define interventions, standards of practice, and quality of care was made in this study. A project was designed to compare a series of final admissions to the community hospitals of the former Exeter Health District over one year with a series of final admissions to the Exeter and District Hospice, examining such issues as reasons for admission, symptoms, drug prescribing, interventions practised, and previous admissions. The quality of care provided during the final admission, as perceived by the nearest carer of the patients, is described in an accompanying paper.³

Setting

The former Exeter Health Authority (and, since 1992, the Exeter and District Community Health Service NHS Trust) had shown a commitment to the upgrading and rebuilding of community hospitals serving a rural population of around 200 000 people in 10 locations outside the city of Exeter (population = 112 000). In these 12 hospitals, there are 350 medical beds available for the care of cancer patients, with access to two-thirds of these beds being controlled directly by GPs. Those beds overseen by consultants are supervised day-to-day by GP clinical assistants. A new 12-bed hospice was built in 1992 in Exeter on the site of the district general hospital. The medical staff comprises a consultant in palliative medicine and two part-time medical assistants. The hospice offers inpatient care, outpatient consultation, day centre care, and routine bereavement care. Domiciliary palliative nursing care is available throughout the study area.

Method

Death certificates were surveyed on a weekly basis for one year (1994-95), and cases were defined as patients dying in community hospitals and the hospice, with a cancer diagnosis on parts 1a, 1b or 1c of the certificates. Hospice and hospital notes (including medical and nursing records) were reviewed systematically, with data being collected on the following areas: demographic details, treatments received before admission, symptom patterns and management problems on admission, drug prescribing on admission, and quality of medical records. Medical records were reviewed against quality markers as set out by the hospice management and the community trust management; the two sets of markers being almost identical.

Table 1. The length of final admission to community hospitals compared with the hospice.

Duration of final admission (days)	Community hospital (%)	Hospice (%)
0-3	40 (23.6)	41 (35.3)
4-9	49 (29.1)	38 (32.8)
10-19	36 (21.3)	27 (23.3)
19+	44 (26.0)	10 (8.6)

Medical and nursing notes were reviewed for evidence of active treatment of presenting symptoms, e.g. rectal examination and use of suppositories and enemas in patients with constipation, commencement of anti-emetics, and non-oral routes of medication administration with nausea and vomiting. Statistical analysis was by chi-square test.

Results

There were a total of 292 cases, with 176 patients dying in community hospitals and 116 patients dying in the hospice. Unless specified, there were no significant differences between community hospital and hospice patients. The main cancer diagnoses were as follows: lung 15.8%; prostate 9.6%; colon 9.2%; carcinomatosis (unknown primary) 8.9%; breast 8.2%; oesophagus 5.1%; rectum/anus 4.5%; pancreas 4.1%; non-Hodgkin's lymphoma 4.1%; and ovary 4.1%. Notes were available for all but five community hospital cases, giving 287 cases for analysis.

Patients were admitted from home in 64.5% of cases, from district general hospital in 25.4% of cases, and from elsewhere in 10.1% of cases. Seventeen out of 116 hospice cases had access to community hospitals (14.7%). Patients dying in community hospitals lived significantly closer to the place of death than did patients dying in the hospice (less than two miles: community hospital 125 cases vs hospice 36 cases; two to five miles: 25 cases vs 48 cases; more than six miles: 21 cases vs 29 cases; data missing for three hospice cases; $\chi^2 = 47.88$, $P < 0.001$).

Domiciliary hospice nursing support was provided in 79/142 (55.6%) community hospital cases (data missing in 29 cases) and 88/115 (76.5%) hospice cases ($\chi^2 = 12.2$, $P < 0.001$), with the length of prior involvement being a mean of 139 days and a median of 60 days — the data being skewed by a few cases with very lengthy involvement before death (no significant difference in the distribution using the chi-square test).

Table 1 indicates that the length of final admission differs significantly between the two settings, with mean length of admission of 15.6 days for community hospitals and eight days for the

hospice.

Operations related to cancer were recorded in 168/287 cases (58.5%). Radiotherapy was recorded in 48/171 (28.1%) community hospital cases and in 62/116 (53.4%) hospice cases ($\chi^2 = 18.8$, $P < 0.001$).

The nearest carer was the spouse 169/287 (58.9%), son or daughter 60/287 (20.9%), another relative or unrelated carer 27/287 (9.4%), or there was no apparent carer 31/287 (10.8%). The reasons for admission to the relevant unit determined from the medical notes are shown in Table 2. Admissions for pain and symptom control were significantly more frequent for hospices than for community hospitals. Conversely, admissions for terminal nursing care (not available in the community setting) and secondary admissions for social reasons (such as respite care, patient living alone, no cover) were significantly more frequent for community hospital cases than for hospice cases.

Medical management and social problems recorded on admission are shown in Tables 3 and 4 respectively. Mobility scores, recorded on 162 community hospital cases and 112 hospice cases (data unavailable for 13 cases), showed no significant difference, with 37/274 (13.5%) independent patients, 121/274 (44.2%) mobile with help, and 116/274 (42.3%) being bed-bound on admission.

Table 5 illustrates drug prescribing of major classes of drugs both on admission and also at death. Co-prescription on admission of anti-emetic with opiate was observed in 66/119 (55.5%) cases, and co-prescription of laxative with opiate was observed in 65/119 (54.6%) cases.

The total dose of opiate (dosages of parenteral diamorphine were multiplied by 3 to give the equivalent morphine dosage) on admission for the 119 patients receiving opiate was 120 mg day⁻¹ (mean) and 60 mg day⁻¹ (median). This rose to 190 mg day⁻¹ (mean) and 90 mg day⁻¹ (median) for the 233 patients receiving opiate at death, with no significant difference demonstrated by the chi-square test between community hospital or hospice cases at admission or at death; the differences in median and mean values are explained by the skewed distribution of the data, with both groups having a few cases receiving very high doses of opiate.

Medical notes were surveyed to determine whether they met the stipulated minimum standards set out by the hospice medical committee or the community trust medical board. Of community hospital notes, 81/171 (47.4%) compared with 18/116 (15.5%) of hospice notes ($\chi^2 = 31.3$, $P < 0.001$ comparing the two groups) did not reach the minimum standard. Community hospital notes were deficient in the following areas: diagnosis absent 7/171 (4.1% of all notes), reason for admission absent 7/171 (4.1%), incomplete history 17/171 (9.9%), examination absent 29/171 (17.0%), plan of management absent 14/171 (8.2%), progress reports not entered 33/171 (19.3%), drug charting deficient 10/171 (5.8%),

Table 2. Reasons for admission to the community hospital or hospice as determined from the medical and nursing records.

	Community hospital (n = 171)		Hospice (n = 116)	
	n	%	n	%
Curative/active treatment	7	4.1	0	0
Investigation	8	4.7	1	0.9
Pain control	19	11.1	28	24.1
Other symptom control	26	15.2	46	39.7
Social reasons	22	12.9	12	10.3
Terminal nursing care	76	44.4	24	20.7
Rehabilitation	13	7.6	5	4.3

$\chi^2 = 44.3$, $P < 0.001$.

Table 3. Symptoms on admission to the community hospital or hospice as determined from the medical and nursing records (more than one symptom per case often being recorded).

Problem	Community hospital (n = 171)		Hospice (n = 116)		
	n	%	n	%	
Pain	56	32.7	57	49.1	$\chi^2 = 7.8, P = 0.005$
Nausea	22	12.9	32	27.6	$\chi^2 = 9.8, P = 0.002$
Vomiting	20	11.7	35	30.2	$\chi^2 = 15.2, P < 0.001$
Constipation	22	12.9	35	30.2	$\chi^2 = 13.0, P < 0.001$
Anorexia	20	11.7	15	12.9	
Dyspnoea	29	17.0	27	23.3	
Weakness	62	36.3	40	34.5	
Confusion	35	20.5	23	19.8	

The following symptoms were recorded in less than 5% of cases: cough, insomnia, depression, anxiety.

Table 4. Management problems and social problems on admission to the community hospital or hospice, as determined from the medical and nursing records.

	Community hospital (n = 171)		Hospice (n = 116)		Significance
	n	%	n	%	
Management problems					
Urinary incontinence	20	11.7	7	6.0	
Faecal incontinence	14	8.2	2	1.7	$\chi^2 = 5.48, P = 0.019$
Pressure sores	21	12.3	14	12.1	
Effusion/ascites	8	4.7	7	6.0	
Anaemia	9	5.3	1	0.9	$\chi^2 = 3.98, P = 0.046$
Need for terminal nursing care	96	56.1	46	39.7	$\chi^2 = 7.51, P = 0.006$
Urinary catheter in situ	33	19.3	16	13.8	
Subcutaneous infusion pump in situ	8	4.7	16	13.8	$\chi^2 = 7.49, P = 0.006$
Social problems					
Lack of weekend/night care	31	18.1	12	10.3	
Relatives needing respite	48	27.6	21	18.1	
Patient living alone	42	24.6	24	20.7	

poor legibility and any signed entry missing 13/171 (7.6%), confirmation and time of death absent 50/171 (29.2%). Hospice notes were only deficient in the area of confirmation and time of death, with 17/116 (14.7%) of these notes lacking this detail.

Discussion

This study has its limitations in that it is not a randomized controlled trial but an observational study of existing services. It would be hard to design a randomized study because community hospitals are, by their nature, located in rural communities, and hospices are mainly based in urban areas. The comparison with a specialist hospice service allows certain conclusions to be drawn, but the possibility of bias related to casemix, GP preferences, and proximity to oncology services needs to be borne in mind.

Patients dying in both settings showed similarity in terms of cancer diagnoses, time from diagnosis, and relationship of nearest carer. Patients lived significantly nearer to the community hospitals than to the hospice, illustrating the role envisaged in previous Department of Health and Social Security guidance that community hospitals should provide services for patients living locally.⁴ Community hospital admissions were significantly longer than hospice admissions, an observation likely to be related to the differing primary reasons for admission and the degree of involvement of domiciliary palliative care services discussed below. The increased incidence of radiotherapy and chemotherapy in hospice cases may reflect the proximity of the hospice to oncology services and the increased awareness of hospice doctors of the value of palliative radiotherapy and chemotherapy, even in advanced malignancy.

Reasons for admission to the two settings differed significant-

ly, with hospice cases being admitted more frequently for reasons of symptom control, whereas terminal nursing care not normally provided in the community was the most frequently cited reason for admission to community hospital beds. These findings probably reflect specialist versus generalist usage of these beds and the traditional hospice service role of symptom control.⁵

Symptom patterns on admission revealed more patients in the hospice group being reported as suffering from pain, nausea and vomiting, and constipation, which would accord with the main reasons for admission. However, the inadequacy of community hospital medical records (discussed below) may reflect poor detection and under-reporting of symptoms. The greater incidence of faecal incontinence noted in community hospital patients may reflect a higher incidence than reported of constipation in this group, and might reflect a heightened awareness of hospice staff to the problem of constipation in terminally ill patients. Management problems on admission were broadly similar, except that more hospice patients received medication via subcutaneous infusion pumps. This observation may be related to a greater involvement of domiciliary hospice nursing staff with this group of patients and the patients being nearer to death, as borne out by the shorter duration of the final illness. Analysis of drug prescription on admission showed that significantly more hospice patients received slow-release morphine tablets, with the rates of both antiemetic and laxative prescription being higher compared with hospice patients. Prescribing at death revealed few differences between the two groups, with the majority of patients receiving opiates via subcutaneous infusion pump. Mean and median opiate dosages rose similarly in the two groups. Significantly more hospice patients received subcutaneous

Table 5. Drug prescribing on admission and at death.

Drug		Community hospital (n = 171)		Hospice (n = 116)		Significance
		n	%	n	%	
Slow-release morphine tablets	A	36	21.1	45	38	$\chi^2 = 10.7, P < 0.001$
	D	16	9.4	8	6.9	
Morphine elixir/tablets	A	13	7.6	13	11.2	
	D	13	7.6	4	3.4	
Opiate via s.c. pump	A	5	2.9	13	11.2	$\chi^2 = 8.1, P = 0.004$
	D	108	63.2	78	67.2	
Compound analgesic	A	27	15.8	18	15.5	
	D	0	0	0	0	
NSAID	A	30	17.5	22	19.0	
	D	8	4.7	9	7.8	
Hypnotics	A	23	13.5	24	20.7	
	D	8	4.7	8	6.9	
Antidepressants	A	15	8.8	15	12.9	
	D	2	1.2	4	3.4	
Anticonvulsants	A	6	3.5	8	6.9	
	D	5	2.9	2	1.7	
Tranquillizers	A	10	5.8	11	9.5	
	D	59	34.5	37	31.9	
Antiemetics	A	38	22.2	48	41.4	$\chi^2 = 12.1, P < 0.001$
	D	92	53.8	44	37.9	
Midazolam s.c.	A	0	0	1	0.9	$\chi^2 = 43.9, P < 0.001$
	D	26	15.2	60	51.7	
Corticosteroids	A	40	23.4	31	26.7	
	D	12	7	12	10.3	
Laxatives	A	44	25.7	49	42.2	$\chi^2 = 8.6, P = 0.003$
	D	13	7.6	14	12.1	
Gastric acid blocking drugs	A	37	21.6	19	16.1	
	D	6	3.5	6	5.2	

A, on admission; D, at time of death; s.c., subcutaneous; NSAID, non-steroidal anti-inflammatory drugs. Significance compares community hospitals and hospice.

Table 6. Interventions, evidence of active treatment of presenting symptoms as derived from the medical and nursing notes.

	Community hospital (n = 171)		Hospice (n = 116)		Significance
	n	%	n	%	
Catheterization	36	21.1	22	19.0	
Starting subcutaneous infusion pump	97	56.7	76	65.5	
Blood sampling	52	30.4	20	17.2	$\chi^2 = 6.4, P = 0.012$
X-rays	15	8.8	1	0.9	
Transfusions	9	5.3	2	1.7	$\chi^2 = 8.2, P = 0.004$
Intravenous infusions	9	5.3	2	1.7	
Paracentesis/pleural tap	4	2.3	4	3.4	
Radiotherapy	1	0.6	2	1.7	
Nerve block organized	1	0.6	1	0.9	
Evidence in notes of active treatment of					
Pain (n = 56 and 57)	45	80.4	40	70.2	
Constipation (n = 22 and 35)	15	68.2	21	60	
Nausea and vomiting (n = 25 and 39)	21	84.0	29	74.4	

midazolam for terminal restlessness. This practice might usefully be extended to community hospital care.

Interventions during the final admission differed significantly with respect to blood sampling and X-ray investigation. This is linked with the observation that around 10% of community hospital patients were admitted primarily for curative or active treatment and investigation. This observation may be viewed in a number of ways. Hospice doctors may be more tolerant of non-investigation and more likely to recognize imminent death than community hospital doctors. On the other hand, a number of community hospital cases were admitted without a diagnosis (a very rare occurrence in a hospice) and required investigation and treatment until a diagnosis was made and the terminal phase entered. In these situations, community hospital doctors perform

a role that would otherwise be undertaken by the district general hospital. Evidence in the notes of active treatment of pain, constipation, and nausea and vomiting indicated a similar degree of activity in both settings.

The observation that the quality of community hospital medical notes was significantly lower than the quality of hospice medical notes (which were of extremely high quality and amenable to analysis) deserves comment. GPs were mostly caring for their own patients and, hence, had detailed personal knowledge of cases. However, in terms of communication of the problems and progress of the case to doctors covering 'out of hours', the notes were too often deficient, with history, examination, progress report, and management plan frequently absent. The poor quality of medical records may represent a large num-

ber of undetected symptoms in community hospital patients, but this was not borne out in the survey of nearest lay carers' perceptions of patient care.³ Nursing records were much more comprehensive, recording visits of doctors and decisions made when no entry was made in the medical record.

The role of community hospitals in the new NHS has been discussed⁶ with reference made to terminal care. A recent study highlighted the need for evidence of the appropriateness and effectiveness of existing community hospital beds.⁷ Community hospitals compared with both hospices and district general hospitals have the advantages of proximity to the patient's home and family, economy^{8,9} (personal communication, Dr J Gilbert, Exeter Hospicecare), continuity of care by the primary health care team, and low-technology surroundings (compared with district general hospitals).^{10,11} It has been demonstrated that the presence of community hospitals is associated with a reduction in terminal cancer admissions to a district general hospital,² and that clinicians viewed hospice and community hospital accommodation as a more appropriate place of death for terminally ill cancer patients.¹² This study provides quantitative evidence of real differences in terminal cancer care between community hospitals and a hospice, which may reflect a different population being admitted to each setting or may represent differences in the way in which care was delivered. In terms of drug prescribing and interventions performed during the final admissions, there was broad similarity between the two settings. The main deficiency was the poorer quality of community hospital medical records, which requires attention.

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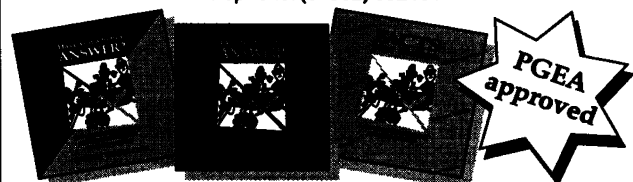
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