Effectiveness of palliative home-care services in reducing hospital admissions and determinants of hospitalization for terminally ill patients followed up by a palliative home-care team: A retrospective cohort study.

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Aim: The aim of this study was to assess the effectiveness of appropriate palliative home-care services in reducing hospital admissions, and to identify factors predicting the likelihood of patients treated at home being hospitalized.

Design: Retrospective cohort study.

Setting/participants: We enrolled all 402 patients listed by the Local Health Authority No. 5, Veneto Region (North-East Italy), as dying of cancer in 2011.

Results: Of the cohort considered, 39.9% patients had been taken into care by a palliative home-care team. Irrespective of age, gender, and type of tumor, patients taken into care by the palliative home-care team were more likely to die at home, less likely to be hospitalized, and spent fewer days in hospital in the last 2 months of their life. Among the patients taken into care by the palliative home-care team, those with hematological cancers and hepatocellular carcinoma were more likely to be hospitalized, and certain symptoms (such as dyspnea and delirium) were predictive of hospitalization.

Conclusions: Our study confirms the effectiveness of palliative home care in enabling patients to spend the final period of their lives at home. The services of a palliative home-care team reduced the consumption of hospital resources. This study also provided evidence of some types of cancer (e.g. hematological cancers and hepatocellular carcinoma) being more likely to require hospitalization, suggesting the need to reconsider the pathways of care for these diseases.

STRENGTHS: Assessed economic impact by way of hospitalization and length of stay as well as patient impact by way of symptom assessment.

WEAKNESSES: Only "Yes/No" answers were recorded in the PHCT data collected and as such qualitative data and severity with respect to pain and dyspnea was not assessed. In addition, the cohort sampled was homogenous. Lastly, burden of identifying palliative patients is solely on GP.

RELEVANCE TO PALLIATIVE CARE: This study reinforces the need for quality palliative home care to not only reduce hospitalization but also to provide medical support and emotional comfort in the home in the final months of a terminal cancer. In addition, brings to question the need for palliative sedation.

Table 1. Bivariate analysis of the sample's characteristics and outcomes by type of care group.

		Total sample (N = 402)	Not given palliative care (n = 242)	Given palliative care (n = 160)	p value
Sex	Male, % (n)	58.5% (235)	57.4% (139)	60.0% (96)	0.610
Age	Mean age (±SD)	73.9 (±11.9)	75.1 (±11.9)	72.1 (±11.9)	0.012
Cancer	Lung, % (n)	22.1% (89)	19.8% (48)	25.6% (41)	0.017
	Colorectal, % (n)	11.7% (47)	12.4% (30)	10.6% (17)	
	Pancreas, % (n)	7.2% (29)	4.6% (11)	11.2% (18)	
	Breast, % (n)	5.2% (21)	5.8% (14)	4.4% (7)	
	HCC, % (n)	6.5% (26)	6.2% (15)	6.9% (11)	
	Prostate, % (n)	5.0% (20)	4.1% (10)	6.2% (10)	
	Hematological, % (n)	9.5 % (38)	13.2% (32)	3.8% (6)	
	Unknown, % (n)	1.8% (7)	2.1% (5)	1.3% (2)	
	Others, % (n)	31.1% (125)	31.8% (77)	30.0% (48)	
Place of death	Hospital, % (n)	53.5% (215)	73.6% (178)	23.1% (37)	<0.001
	Home, % (n)	26.1% (105)	7.9% (19)	53.8% (86)	
	Nursing home, % (n)	10.7% (43)	12.4% (30)	8.1% (13)	
	Country hospital, % (n)	9.7% (39)	6.2% (15)	15.0% (24)	
Time spent in hospital in last 2 months of life	Mean days (±SD)	13.4 (±17.6)	19.6 (±18.9)	4.4 (±10.4)	<0.001
Number of hospitalizations in last 2 months of life	Mean (±SD)	0.9 (±0.99)	1.3 (±1.0)	0.4 (±0.7)	<0.001

Table 2. Bivariate analysis of outcomes for each type of cancer by type of care group.

	Total sample	Not given palliative care	Given palliative care	p value
Mean days in hospital in last 2 months of life				
Lung: days (±SD)	9.9 (±13.8)	15.8 (±14.1)	3.4 (±10.1)	<0.001
Colorectal: days (±SD)	14.3 (±17.5)	21.2 (±18.7)	2.9 (±5.5)	<0.001
Pancreas: days (±SD)	8.2 (±13.6)	16.9 (±17.6)	2.8 (±6.4)	0.004
Breast: days (±SD)	10.4 (±13.5)	13.6 (±14.9)	4 (±7.7)	0.129
HCC: days (±SD)	13.6 (±17.0)	17.1 (±15.7)	8.8 (±18.3)	0.228
Prostate: days (±SD)	9.9 (±16.9)	16.6 (±21.5)	3.2 (±6.5)	0.075
Hematological: days (±SD)	22.8 (±20.6)	26.1 (±20.7)	5.8 (±8.2)	0.025
Unknown: days (±SD)	14 (±15.4)	19.6 (±14.7)	0 (±0)	0.135
Others: days (±SD)	15.0 (±19.9)	21.1 (±21.6)	5.6 (±12.2)	<0.001
Mean number of hospitalizations in last 2 months of life				
Lung: number (±SD)	0.9 (±0.9)	1.5 (±0.9)	0.3 (±0.6)	<0.001
Colorectal: number (±SD)	0.8 (±0.9)	1.1 (±0.8)	0.3 (±0.6)	<0.001
Pancreas: number (±SD)	0.7 (±0.8)	1.3 (±0.8)	0.3 (±0.6)	0.001
Breast: number (±SD)	0.6 (±0.7)	0.8 (±0.7)	0.3 (±0.5)	0.107
HCC: number (±SD)	1.2 (±1.3)	1.5 (±1.2)	0.8 (±1.3)	0.202
Prostate: number (±SD)	0.8 (±1.2)	1.1 (±1.5)	0.5 (±0.7)	0.273
Hematological: number (±SD)	1.4 (±1.0)	1.5 (±1.0)	0.7 (±0.8)	0.049
Unknown: number (±SD)	0.9 (±0.9)	1.2 (±0.8)	0 (±0)	0.113
Others: number (±SD)	0.9 (±1.0)	1.3 (±1.0)	0.4 (±0.7)	<0.001
Death at home				
Lung, % (n)	22.1% (89)	14.3% (7)	60.0% (24)	<0.001
Colorectal, % (n)	11.7% (47)	10.0% (3)	58.8% (10)	<0.001
Pancreas, % (n)	7.2% (29)	0.0% (0)	55.6% (10)	0.002
Breast, % (n)	5.2% (21)	0.0% (0)	42.9% (3)	0.008
HCC, % (n)	6.5% (26)	0.0% (0)	41.7% (5)	0.007
Prostate, % (n)	5.0 % (20)	30.0% (3)	40.0% (4)	0.639
Hematological, % (n)	9.5 % (38)	3.1% (1)	66.7% (4)	<0.001
Unknown, % (n)	1.8% (7)	20.0% (1)	0.0% (0)	0.495
Others, % (n)	31.1% (125)	6.5% (5)	52.1% (25)	<0.001