Report Supplementary Material for NIHR Report

Contents

Table 1: Characteristics of included studies

Type of HPC model	Study details and design	Disease	Participants randomised (total n)	Control	Mean age	Gender distribution (%)
Ward-based model	Jingfen *et al.*[1] China	Lung cancer	Patients T: 106	Usual care	Patients (mean, sd) I: 64.25 (10.41) yrs C: 63.34 (10.22) yrs	Patients I: 42% F C: 53% F
Inpatient consulting model	Ahronheim *et al.*[2] USA	Dementia	Patients I: 48 C: 51 T: 99	Usual care	Patients (mean, range) I: 83.9 (63 – 99) yrs C: 85.6 (72 – 100) yrs	Patients I: 77.1% F C: 86.3% F
Inpatient consulting model	Carson *et al.*[3] Associated report: Nelson *et al.*[4] USA	Disease not specified but all patients were adults treated in medical ICUs	Patients I: 130 C: 126 T: 256 Caregivers I: 184 C: 181 T: 365	Usual care	Patients (mean, 95% CI) I: 58 (55.2 - 60.8) yrs C: 57 (54 - 59.7) yrs Caregivers I: 51 (48.8 - 52.8) yrs C: 51 (48.6 - 52.7) yrs	Patients I: 51% F C: 52% F Caregivers I: 70% F C: 72% F
Inpatient consulting model	Cheung *et al.*[5] Australia	Actual diseases not stated. However, admission codes were stated. The admission code for those not admitted from the operating theatre include cardiovascular (n=3, 15%), gastroenterology (n=1, 5%), neurology (n=1, 5%), respiratory (n=6, 30%), sepsis (n=4, 20%), trauma (n=2, 10%), other (n=1, 5%).	Patients I: 10 C: 10 T: 20 Caregivers I: 5 C: 4 T: 9	Usual care	Patients (median, IQR) I: 83 (14) yrs C: 74 (20) yrs Caregivers I: not provided C: not provided	Patients I: 50% F C: 70% F Families I: not provided C: not provided
Inpatient consulting model	El-Jawahri *et al.*[6] Associated reports: El-Jawahri *et al.*[7], VanDusen *et al.*[8] USA	Adults with hematologic malignancies undergoing autologous/allogeneic HCT	Patients I: 81 C: 79 T: 160 Caregivers I: 49 C: 45 T: 94	Usual care	Patients (mean, sd) I: 57.2 (12.7) yrs C: 56.9 (14.1) yrs Caregivers I: 54.4 (14.6) yrs C: 54.3 (13.7) yrs	Patients I: 59.3% F C: 54.4% F Caregivers I: 66.7% F C: 73.3% F
Inpatient consulting model	Gade *et al.*[9] USA	Cancer (n = 159, 31.1%), congestive heart failure (CHF) (n = 38, 7.4%), myocardial infarction (MI) (n = 9,	Patients I: 280 C: 237 T: 517	Usual care	Patients (mean, sd) (data presented for 512 patients) I: 73.6 (12.6) yrs	Patients (data presented for 512 patients)

		1.8%), other heart disease (n = 10, 2%), chronic obstructive pulmonary disease (COPD) (n = 66, 12.9%), other pulmonary disease (n = 6, 1.2%), end-stage renal disease (ESRD) (n = 12, 2.3%), organ failure (n = 57, 11.1%), stroke (n = 30, 5.9%), dementia (n = 21, 4.1%).			C: 73.1 (13.2) yrs	I: 59% F C: 51% F
Inpatient consulting model	Grudzen *et al.*[10] Associated reports: Grudzen *et al.*[11], Kandarian *et al.*[12], Kistler *et al.*[13] USA	Cancer: breast (n = 16, 11.8%), colorectal (n = 16, 11.8%), lung (n = 15, 11%) and other (n = 89, 65.4%)	Patients I: 69 C: 67 T: 136	Usual care	Patients (mean, sd) I: 55.1 (13.1) yrs C: 57.8 (14.7) yrs	Patients I: 57% F C: 55% F
Inpatient consulting model	Hopp *et al.*[14] USA	Heart failure	Patients I: 43 C: 42 T: 85	Usual care	Patients (mean, sd) I: 67 (11) yrs C: 68 (13) yrs	Patients I: 39.5% F C: 57.1% F
Inpatient consulting model	Ma *et al.*[15] Associated report: Burnham *et al.*[16] USA	Patients admitted from skilled nursing facilities/long-term care (n = 49, 24.6%), end-stage neurologic condition (n = 15, 7.5%), advanced or metastatic cancer (n = 36, 18.1%), arrest with neurologic compromise (n = 12, 6%), multiple organ system failure (n = 28, 14.1%), end-stage organ disease (n = 75, 37.7%), shock (n = 40, 20.1%), acute respiratory failure (n = 91, 45.7%) and prolonged length of stay or ICU readmission (n = 17, 8.5%)	Patients I: 97 C: 102 T: 199	Usual care	Patients (mean, sd) I: 66 (14) C: 62 (12)	Patients I: 51% C: 45%
Inpatient consulting model	Ozcelik *et al.*[17] Turkey	Cancers: gastrointestinal(n = 14, 31.8%) genitourinary (n = 12, 27.3%) breast (n = 5 11.4%), sarcoma (n = 4, 11.4%), lung (n = 4, 9.1%) and unknown	Patients I: 22 C:22 T: 44	Usual care	Patients (mean, sd) I: 52.59 (13.31) yrs C: 53.63 (12.31) yrs	Patients I: 81.8% F C: 68.2% F

		primary tumour (n = 4, 9.1%)				
Inpatient consulting model	Sidebottom *et al.*[18] USA	Heart failure	Patients I: 116 C:116 T: 232	Usual care	Patients (mean, sd) I: 76 (11.9) yrs C: 70.9 (13.6) yrs	Patients I: 52.6% F C: 42.2% F
Hospital outpatient model	Lowther *et al.*[21] Associated reports: Lowther *et al.*[22], Lowther *et al.*[23], Lowther *et al.*[24] Kenya	People with HIV on ART	Patients I: 60 C:60 T: 120	Usual care	Patients (mean, sd) I: 38.3 (8.2) yrs C: 40.5 (9.2) yrs	Patients I: 80% F C: 82% F
Hospital outpatient model	Mendoza-Galindo *et al.*[25] Associated report: Ramirez-Morales *et al.*[26] Mexico	Breast cancer	Patients I: 33 C:20 T: 53	Usual care	Patients I: Not provided C: Not provided	Patients I: Not provided C: Not provided
Hospital outpatient model	Nottelmann *et al.*[27] Associated reports: Nottelmann *et al.*[28], Nottelmann *et al.*[29] Denmark	Cancer: lung (n = 120, 40%), gastrointestinal (n = 81, 27%), prostatic (n = 54, 18%) and other (n = 45, 15%)	Patients I: 132 C: 149 T: 281	Usual care	Patients (mean, sd) I: 66 (9) reported for 132 intervention patients C: Not reported	Patients I: 42% F reported only for 132 intervention patients C: Not reported
Hospital outpatient model	Tattersall *et al.*[30] Australia	Cancer: gastrointestinal (n = 44, 36.7%), lung (n = 23, 19.2%), gynaecological(n = 19, 15.8%), breast (n = 17, 14.2%), prostate (n = 2, 1.7%) and other primary sites (n = 15, 12.5%)	Patients I: 60 C: 60 T: 120	Usual care	Patients (mean, sd) I: 63 (11.2) yrs C: 64 (11.1) yrs	Patients I: 47% F C: 57% F
Hospital outpatient model	Temel *et al.*[31] Associated reports: Greer *et al.*[32], Greer *et al.*[33], Jacobsen *et al.*[34], Nipp *et al.*[35], Nipp *et al.*[36], Pirl *et al.*[37], Temel *et al.*[38], Temel *et al.*[39], Yoong *et al.*[40] USA	Metastatic non-small-cell lung cancer	Patients I: 77 C: 74 T: 151	Usual care	Patients (mean, sd) I: 64.98 (9.73) yrs C: 64.87 (9.41) yrs	Patients I: 55% F C: 49% F
Hospital outpatient model	Woo et al.[41] South Korea	Pancreatobiliary cancer: pancreatic (n = 219, 76%)	Patients I: 144 C: 144	Usual care	Patients (median, range) I: 66 (40 – 86)	Patients I: 55.6% C: 54.9%

		Biliary (n = 68 24%)	T: 288		C: 67 (42 – 89)	
Hospital outreach model	Bajwah *et al.*[42] Associated report: Bajwah *et al.*[43] UK	Idiopathic fibrotic lung disease	Patients I: 26 C: 27 T: 53 Caregivers I: 19 C: 26 T: 45	Usual care	Patients (mean, sd) I: 67.1 (10.9) years C: 70.6 (10.3) yrs Caregivers I: 61.3 (14) yrs C: 60.3 (13.1) yrs	Patients I: 23% F C: 33% F Caregivers I: 68% F C: 77% F
Hospital outreach model	Brannstrom *et al.*[44] Associated reports: Brannstrom *et al.*[45], Markgren *et al.*[46], Sahlen *et al.*[47], Talabani *et al.*[48] Sweden	Heart failure	Patients I: 36 C: 36 T: 72	Usual care	Patients (mean, sd) I: 81.9 (7.2) yrs C: 76.6 (10.2) yrs	Patients I: 27.8% F C: 30.6% F
Hospital outreach model	Janssens *et al.*[49] Associated reports: Veron *et al.*[50], Weber *et al.*[51] Switzerland	Chronic obstructive pulmonary disease (COPD)	Patients I: 26 C: 23 T: 49	Usual care	Patients (mean, sd) I: 70.8 (8.4) C: 71.3 (8.1)	Patients I: 46.2% F C: 60.9% F
Hospital outreach model	McWhinney *et al.*[52] Canada	Cancer	Patients I: Not provided C: Not provided T: 146 Caregivers I: Not provided C: Not provided T: 74	Usual care	Patients I: Not provided C: Not provided Caregivers I: Not provided C: Not provided	Patients I: Not provided C: Not provided Caregivers I: Not provided C: Not provided
Hospital outreach model	Solari *et al.*[53] Associated reports: Giovannetti *et al.*[54], Solari *et al.*[55] Italy	Multiple sclerosis	Patients I: 52 C: 26 T: 78 Caregivers I: 52 C: 26 T: 78	Usual care	Patients (mean, sd)* I: 60.5 (9.7) C: 56.8 (9.5) Caregivers I: 60.1 (13.9) C: 60.8 (11.1)	Patients* I: 62% C: 46% Caregivers I: 62% C: 61%
Model involving multiple settings	Bakitas *et al.*[56] Associated reports:	Cancer: gastrointestinal tract (n = 133, 41.3%), lung (n = 117, 36.3%), genitourinary tract (n =	Patients I: 161 C: 161 T: 322	Usual care	Patients (mean, sd) I: 64.7 (10.8) yrs C: 65.4 (11.6) yrs Caregivers	Patients I: 40.4% F C: 43.5% F

	Bakitas *et al.*[57], Bakitas *et al.*[58], Maloney *et al.*[59], O'Hara *et al.*[60] USA	39, 12.1%) and breast (n = 33, 10.2%)	Caregivers I: 108 C: 90 T: 198		I: 58 (11.9) yrs C: 59.9 (13) yrs	Caregivers I: 76.9% F C: 77.8% F
Model involving multiple settings	Bakitas *et al.*[61] Associated reports: Dionne-Odom *et al.*[62], Dionne-Odom *et al.*[63], Dionne-Odom *et al.*[64], Dionne-Odom *et al.*[65], Dionne-Odom *et al.*[66] USA	Cancer: lung (n = 88, 43%), breast (n = 23, 11%), gastrointestinal tract (n = 50, 24%), other solid tumour (n = 20, 10%), genitourinary tract (n = 16, 8%) and haematologic malignancy (n = 10, 5%).	Patients I: 104 C: 103 T: 207 Caregivers I: 19 C: 25 T: 44	Usual care	Patients (mean, sd) I: 64.03 (10.3) yrs C: 64.6 (9.6) yrs Caregivers I: 62.1 (11.9) yrs C: 61.2 (8.6) yrs	Patients I: 46% F C: 49% F Caregivers I: 78.9% F C: 88% F
Model involving multiple settings	Bekelman *et al.*[67] Associated reports: Bekelman *et al.*[68], Flint *et al.*[69] USA	Heart failure	Patients I: 157 C: 157 T: 314	Usual care	Patients (mean, sd) I: 64.5 (10.9) yrs C: 66.5 (11.8) yrs	Patients I: 18.5% F C: 24.2% F
Model involving multiple settings	Brumley *et al.*[70] Associated reports: Enguidanos *et al.*[71] USA	Cancers (n = 138, 46%), COPD (n = 62, 21%) and CHF (n = 97, 33%)	Patients I: 145 C: 152 T: 297	Usual care	Patients (mean, sd) I: 73.9 (11.1) yrs C: 73.7 (13) yrs	Patients I: 45% F C: 53% F
Model involving multiple settings	Edmonds *et al.*[72] Associated report: Higginson *et al.*[73] UK	Multiple sclerosis	Patients I: 26 C: 26 T: 52	Usual care	Patients (mean) I: 53 C: 53	Patients I: 65.4% F C: 73.1% F
Model involving multiple settings	Farquhar *et al.*[74] Associated reports: Farquhar *et al.*[75],	Cancer: lung (n = 33, 49%), breast (n = 13, 19%) rectal/bowel (n = 4, 6%), prostate (n = 3, 4%), lymphoma (n = 3, 4%), mesothelioma (n =	Patients I: 35 C: 32 T: 67 Caregivers	Usual care	Patients (mean, sd) I: 70 (9.4) yrs C: 67 (13.3) yrs	Patients I: 59% F C: 62% F Caregivers I: 70% F

	Javadzadeh *et al.*[76] UK	3, 4%), gastro-oesophageal junction (n = 2, 3%), renal (n = 2, 3%), endometrial (n = 1, 2%), hepatocellular (n = 1, 2%), bladder (n = 1, 2%) and unknown primary (n = 1, 2%).	I: 20 C: 21 T: 41		Caregivers I: 65.6 (13.4) yrs C: 63.5 (12.2) yrs	C: 67% F
Model involving multiple settings	Farquhar *et al.*[77] Associated report: Farquhar *et al.*[75] UK	COPD (n = 73, 84%) and other non-malignant disease (n = 14, 16%).	Patients I: 44 C: 43 T: 87 Caregivers I: 29 C: 28 T: 57	Usual care	Patients (mean, sd) I: 72.3 (10.6) yrs C: 72.2 (9.4) yrs Caregivers I: 62.5 (14.82) yrs C: 62 (12.02) yrs	Patients I: 36% F C: 42% F Caregivers I: 79% F C: 79% F
Model involving multiple settings	Franciosi *et al.*[78] Italy	Cancer: lung (non-small-cell) (n = 163, 58%), pancreatic (n = 60, 21.4%), gastric (n = 44, 15.7%), biliary (n = 14, 5%)	Patients I: 142 C: 139 T: 281	Usual care	Patients (median, IQR) I: 68.5 (12) C: 68 (11)	Patients I: 32% C: 38%
Model involving multiple settings	Groenvold *et al.*[79] Associated reports: Johnsen *et al.*[80], Johnsen *et al.*[81] Denmark	Cancer: lung (n = 103, 34.7%) digestive system (n = 58, 19.5%), breast (n = 66, 22.2%), other (n = 70, 23.6%)	Patients I: 145 C: 152 T: 297	Usual care	Patients I: <50 (10), 50-59 (27), 60-69 (65), 70-79 (36), ≥80 (7) C: <50 (15), 50-59 (25), 60-69 (58), 70-79 (45), ≥80 (9)	Patients I: 57% F C: 59% F
Model involving multiple settings	Higginson *et al.*[82] Associated reports: Higginson *et al.*[73], Higginson *et al.*[83], Higginson *et al.*[84], Higginson *et al.*[85] UK	Multiple sclerosis	Patients I: 26 C: 26 T: 52	Usual care	Patients (mean, sd) I: 53 (10.5) yrs C: 53 (10.4) yrs	Patients I: 65% F C: 73% F
Model involving multiple settings	Higginson *et al.*[86] Associated reports: Bausewein *et al.*[87], Dzingina *et al.*[88] UK	Cancer (n = 21, 20%), chronic obstructive pulmonary disease (COPD) (n = 57, 54%), heart failure (n = 5, 5%), interstitial lung disease (n = 19, 18%) and other (n = 3, 3%).	Patients I: 53 C: 52 T: 105	Usual care	Patients (mean, sd) I: 66 (11) yrs C: 68 (11) yrs	Patients I: 47% F C: 37% F
Model involving multiple settings	Kane *et al.*[89] Associated reports: Kane *et al.*[90], Kane *et al.*[91], Wales *et al.*[92] USA	Cancer: lung (n = 89, 36%), prostate (n = 26, 10.5%), ear, nose and throat (n = 25, 10.1%), brain (n = 18, 7.3%), other (n = 89, 36%)	Patients I: 137 C: 110 T: 247 Caregivers I: 56 C: 40 T: 96	Usual care	Patients (mean) I: 63.3 yrs C: 64 yrs Survivors (mean, sd) I: 56 (11) yrs	Patients I: 2.2% F C: 2.8% F Survivors I: 87% F C: 77% F

					C: 58 (13) yrs	
Model involving multiple settings	McCaffrey *et al.*[93] Australia	Predominantly cancer (n = 25, 80.7%), non-cancer (n = 3, 9.7%) and not reported (n = 3, 9.7%)	Patients I: 23 C: 8 T: 31	Usual care	Patients (mean, sd) I: 62.8 (14.2) yrs C: 66 (20.8) yrs	Patients I: 39.1% F C: 50% F
Model involving multiple settings	McCorkle *et al.*[94] USA	Cancer: gynaecologic (n = 29, 19.9%), lung (n = 37, 25.3%), gastrointestinal (n = 53, 36.3%), and head and neck (n = 27, 18.5%)	Patients I: 66 C: 80 T: 146	Usual care	Patients (mean, range) I: 34 (51.5%) were <65 yrs; 32 (48.5%) were 65 yrs and older C: 57 (71.3%) were <65 yrs and 23 (28.7%) were 65 yrs and older	Patients I: 71.2% F C: 43.7% F
Model involving multiple settings	O'Riordan *et al.*[95] Associated report: O'Riordan *et al.*[96] USA	Heart failure	Patients I: 16 C:14 T: 30	Usual care	Patients (mean, sd) I: 71 (18) yrs C: 59 (19) yrs	Patients I: 69% F C: 28% F
Model involving multiple settings	Rodin *et al.* [97] Associated report: Rodin et al.[98] Canada	Acute leukaemia	Patients I: 22 C: 20 T: 42	Usual care	Patients (mean, sd) I: 51.59 (16.66) C: 54.25 (15.19)	Patients I: 36.4% F C: 40% F
Model involving multiple settings	Rogers *et al.*[99] Associated report: Mentz *et al.*[100] USA	Heart failure	Patients I: 75 C:75 T: 150	Usual care	Patients (mean, sd) I: 71.9 (12.4) yrs C: 69.8 (13.4) yrs	Patients I: 44% F C: 50.7% F
Model involving multiple settings	Temel *et al.*[101] USA	Lung: non-small-cell (n = 154, 44%) , small-cell (n = 30, 8.6%), neuroendocrine (n = 4, 1.1%), mesothelioma (n = 3, 0.9%), epidermal growth factor receptor (EGFR) mutation (n = 29, 8.3%), anaplastic lymphoma kinase (ALK) translocation) (n = 8, 2.3%). Gastrointestinal: pancreatic (n = 87, 24.9%), oesophageal/gastroesophageal junction (n = 32, ,9.1%), gastric (n = 7, 2%), and hepatobiliary (n = 33, 9.4%).	Patients I: 175 C:175 T: 350	Usual care	Patients (mean, sd) I: 65.64 (11.26) yrs C: 64.03 (10.46) yrs	Patients I: 48% F C: 44% F
Model involving multiple settings	Vanbutsele *et al.*[102] Associated report:	Cancer: gastrointestinal [pancreas (n = 25), biliary tract (n = 11), oesophagus (n = 6),	Patients I: 92 C: 94 T: 186	Usual care	Patients (median, IQR) I: 64.5 (57.3 - 71) yrs	Patients I: 36% F

	Vanbutsele *et al.*[103] Belgium	gastro-oesophageal (n = 7), gastric (n = 7), colorectal (n = 15)], lung (n = 51), head and neck (n = 19), breast (n = 14), melanoma (n = 15), genitourinary [prostate (n = 6), bladder (n = 4), kidney (n = 6)]			C: 65 (57 - 71) yrs	C: 27% F
Model involving multiple settings	Wallen *et al.*[104] Associated report: Slota *et al.*[105] USA	Cancer	Patients I: 76 C:76 T: 152	Usual care	Patients (median, IQR) I: 52.43 (10.42) yrs C: 52.38 (3.01) yrs	Patients I: Not provided C: Not provided

*Authors presented data for 76 patients and 76 caregivers. CI = confidence intervals, LQ = lower quartile, sd = standard deviation, T = total sample, UQ = upper quartile, yrs = years,

Resource use data

Table 2: Emergency department use

Study	Time horizon	Significance and direction	Details
Bakitas *et al*.[56]	During study period	Wilcoxon rank sum test P value = 0.53	Intervention: 0.86 visits Control: 0.63 visits Note: not clear if the figures are means or medians.
Bakitas *et al*.[61]	Total use covering period before and after enrolment	Poisson generalised linear model P = 0.32 for baseline (total sample of 207) P = 0.21 for total use in 109 decedents	Intervention for baseline sample (days, 95% CI): 0.16 (0.1 to 0.25) Control for baseline sample: 0.21 (0.15 to 0.31 Intervention (total use in 50 decedents): 0.14 (0.09 to 0.2) Control (total use in 59 decedents): 0.19 (0.14 to 0.26)
Brumley *et al*.[70]	During study period	Reduced ED use in intervention group Cramer's V 0.15; P value = 0.01 linear regression adjusted for survival, age and severity of illness showed intervention reduced ED visits by 0.35 (P value = 0.02)	Intervention: 20% had ED visits Control: 33% had ED visits
Janssens *et al*.[49]	Admissions to the emergency ward in the year before study enrollment	There was no difference in admissions to the emergency ward in the intervention group compared to the control group (Incidence rate ratio 1.27, 95% CI: 0.72 to 2.26, p = 0.384).	Number of admissions to emergency ward Intervention: 33 Control: 23
	During study period	Admission to the emergency ward was twice as often in the intervention group compared to the control group (Incidence rate ratio 2.05, 95% CI: 1.11 to 3.94, p = 0.014). However, after the Benjamini and Hochberg correction for multiple testing, this difference was not significant.	Number of admissions to emergency ward Intervention: 37 Control: 16
Ma *et al*.[15]	During study period and post discharge	Patients in the intervention group had fewer ED visits compared to usual care (p = 0.0067)	% of ED visits Intervention: 1.3% Control: 12.5%

			P value: 0.0067
Mendoza-Galindo *et al*.[25]	Unclear	P = 0.074	Intervention: 39 Control: 50
Rogers *et al*.[99]	During study period	P value not stated	Frequency of interactions occurring between patients and providers Emergency department/urgent care Intervention, mean (SD): 0.4 (0.12) Control, mean (SD): 0.5 (0.11)
Temel *et al*.[31]	During study period	P value not stated	Any emergency department visit from enrolment to death Intervention: 53.1% Control: 57.1%
		P value not stated	Any emergency department visit within 30 days of death Intervention: 22.4% Control: 30.4%

Footnote:

CI: Confidence Intervals, SD: standard Deviation

Table 3: Intensive care unit use

Study	Time horizon	Significance and direction	Details
Bakitas *et al*.[56]	During study period	Wilcoxon rank sum test P value > 0.99	Intervention: 0.06 days Control: 0.06 days Note: not clear if the figures are means or medians
Bakitas *et al*.[61]	Total use covering period before and after enrolment	Poisson generalised linear model P = 0.10 for baseline (total sample of 207) P = 0.49 for total use in 109 decedents	Intervention for baseline sample (days, 95% CI): 0.52 (0.28 to 0.95) Control for baseline sample: 0.22 (0.1 to 0.5) Intervention (total use in 50 decedents): 0.1 (0.04 to 0.24) Control (total use in 59 decedents): 0.15 (0.07 to 0.3)
Carson *et al*.[3]	Interviewed surrogate decision makers immediately after the second support and information team meeting for the intervention group and 10 days after randomization for the control group, unless the patient had died. All surrogate decision makers were interviewed again by telephone for follow-up beginning 90 days after randomization.	Differences between groups for other patient outcomes were analysed based on *t* tests, nonparametric tests, $\chi 2$ tests (including the Fisher exact test), or log-rank tests as appropriate. P value for total ICU days, P = 0.51 P value for after randomisation, P = 0.72	ICU days Total Intervention, median (IQR): 19 (15 to 26) Control, median (IQR): 20 (15 to 30) After randomisation Intervention, median (IQR): 9 (6 to 15) Control, median (IQR): 10 (5 to 17)
Cheung *et al*.[5]	Enrolment to ICU discharge	Fisher's exact test and the Mann-Whitney test P = 0.97	Intervention: median (IQR) ICU length of stay: 3 (7) days Control: median (IQR) ICU length of stay: 5 (8) days
Grudzen *et al*.[10]	During study period	Index-admission Fisher exact test P > .99 Up to 180 days	Hospital days at 180 days Index-admission Since only 1 participant had more than 1 ICU admission, the authors treated the ICU

		Fisher exact test P > .99	admission as a binary outcome. During the index-admission, there was no difference between the 2 groups. (Fisher exact test *P* > 0.99) Up to 180 days There was no difference between the 2 groups (Fisher exact test, P > 0.99).
Gade *et al*.[9]	6 months post-index hospitalisation	P = 0.04 Continuous measures for HPC and usual care patients were compared using t tests for normally distributed measures and Wilcoxon two-sample tests for measures with skewed distributions.	ICU admissions, median n Intervention: 12 Control: 21
Janssens *et al*.[49]	Admissions to ICU for respiratory failure in the year before study enrollment	There was no difference in ICU admissions for respiratory failure in the intervention group compared to the control group (Incidence rate ratio 0.88, 95% CI: 0.26 to 2.96, p = 0.82).	Number of ICU admissions for respiratory failure in the year before inclusion Intervention: 7 Control: 7
	During study period	There was no difference in ICU admissions for respiratory failure in the intervention group compared to the control group (Incidence rate ratio 4.42, 95% CI: 0.49 to 20.92, p = 0.16).	Number of ICU admissions for respiratory failure during the study period Intervention: 5 Control: 1
Kane *et al*.[89]	During study period	p value not stated	Mean number of ICU days per patient Intervention, mean per patient: 0.2 Control, mean per patient: 0.3
Ma *et al*.[15]	During study period	No difference in ICU duration between intervention and control group (p = 0.38)	ICU duration in days, median (IQR) Intervention: 5 (3 - 8) Control: 5.5 (3 - 10) P value: 0.38

Footnote:

CI: Confidence Intervals, IQR: Interquartile Range

Table 4: Resource use in intensive care unit (ICU)

Study	Time horizon	Significance and direction	Details
Carson *et al*.[3]	Interviewed surrogate decision makers immediately after the second support and information team meeting for the intervention group and 10 days after randomization for the control group, unless the patient had died. All surrogate decision makers were interviewed again by telephone for follow-up beginning 90 days after randomization.	Differences between groups for other patient outcomes were analysed based on *t* tests, nonparametric tests, χ^2 tests (including the Fisher exact test), or log-rank tests as appropriate. P value for mechanical ventilation, P = 0.41 P value for dialysis, P = 0.64 P value for nutrition, P = 0.60 P value for vasopressors, P = 0.86	Limitations of ICU treatment Mechanical ventilation Intervention, median (IQR): 40 (31) Control, median (IQR): 33 (26) Dialysis Intervention, median (IQR): 13 (10) Control, median (IQR): 15 (12) Nutrition Intervention, median (IQR): 18 (14) Control, median (IQR): 21 (17) Vasopressors Intervention, median (IQR): 18 (14) Control, median (IQR): 19 (15)
Ma *et al*.[15]	During study period	The following were lower in the intervention group compared to the control group: tracheostomy (p = 0.035) and days on mechanical ventilation (p = 0.042).	% of patients using mechanical ventilation Intervention: 53.6% Control: 56.9% P value: 0.64 Haemodialysis Intervention: 15.5% Control: 23.5%

			P value: 0.15 Vasopressors Intervention: 48.5% Control: 50% P value: 0.83 Tracheostomy Intervention: 1% Control: 7.8% P value: 0.035 Cardiopulmonary resuscitation Intervention: 5.2% Control: 6.9% P value: 0.61 Number of days on mechanical ventilation, median (IQR) Intervention: 4 (3 - 7) Control: 6 (3 - 13) P value: 0.042 Number of days on vasopressors, median (IQR) Intervention: 3 (1 - 6) Control: 3 (2 - 6) P value: 0.91

Footnote:

IQR: Interquartile Range

Table 5: Hospital admission

Study	Time horizon	Significance and direction	Details
Ahronheim *et al*.[2]	During study period	P = 0.92	Mean number of total admissions Intervention: 1.94 Control: 1.90
Bekelman *et al*.[67]	During study period	P = 0.61	Number of hospitalisations Intervention: 18 patients had 1 hospitalisation 9 patients had 2 or more hospitalisations Control 30 patients had 1 hospitalisation 6 patients had 2 or more hospitalisations
Brannstrom *et al*.[44]	During study period	P = 0.009	Number of hospitalisations, mean (SD) Intervention: 0.42 ± 0.60 Control: 1.47±1.81 Total number of hospitalisations Intervention: 15 Control: 53
Brumley *et al*.[70]	During study period	Reduced hospitalisation in intervention group Cramer's V 0.23; P value < 0.001	Intervention: 36% were admitted Control: 59% were admiitted
Farquhar *et al*.[74]	During study period	P value not stated	Inpatient Intervention, n (%), mean (SD) contacts: 2 (7%), 3.0 (2.8) Control, n (%), mean (SD) contacts: 3 (12%), 6.3 (6.8)
Farquhar *et al*.[77]	During study period	P value not stated	Inpatient Intervention, n (%), mean (SD) contacts: 6 (15%), 11.5 (8.3) Control, n (%), mean (SD) contacts: 4 (11%), 6.0 (3.4)

Janssens *et al*.[49]	Hospital admissions for respiratory failure in the year before study enrollment	There was no difference in hospital admissions for respiratory failure in the intervention group compared to the control group (Incidence rate ratio 1.18, 95% CI: 0.61 to 2.31, p = 0.60).	Number of hospital admissions for respiratory failure in the year before inclusion Intervention: 24 Control: 18
	During study period	Hospital admission for respiratory failure was almost twice as often in the intervention group compared to the control group (Incidence rate ratio 1.87, 95% CI: 1.04 to 3.48, p = 0.026). However, after the Benjamini and Hochberg correction for multiple testing, this difference was not significant.	Number of hospital admissions for respiratory failure during study period Intervention: 38 Control: 18
	Hospital admissions for respiratory failure in the year before study enrollment	There was no difference in hospital admissions for respiratory failure in the intervention group compared to the control group (Incidence rate ratio 1.18, 95% CI: 0.36 to 4.12, p = 0.77).	Other hospitalisations in the year before inclusion Intervention: 8 Control: 6
	During study period	There was no difference in hospital admissions for respiratory failure in the intervention group compared to the control group (Incidence rate ratio 1.01, 95% CI: 0.32 to 3.28, p = 0.99).	Other hospitalisations during study period Intervention: 8 Control: 7
Ma *et al*.[15]	During study period and post discharge	Patients in the intervention group had fewer hospital readmissions compared to usual care (p = 0.024)	% of hospital readmissions Intervention: 17.3% Control: 33.3% P value: 0.024
Mendoza-Galindo *et al*.[25] (abstract only)	Unclear	There was no difference in number of hospitalizations. P value not given	Intervention: 48% Control: 51%
Rogers *et al*.[99]	During study period	During the 6-month follow-up, 30% of patients were hospitalized for HF. No differences were seen between the 2 treatment groups in this clinical endpoints through the 6-month follow-up point. For hospitalisation for non-heart failure/cardiovascular and hospitalisation for non-cardiovascular, p value was not stated	Hospitalisation for HF Intervention: 30.7% Control: 29.3% Hospitalisation for non-heart failure/cardiovascular Intervention: 16% Control: 13% Hospitalisation for non-cardiovascular Intervention: 10.7% Control: 24%

Sidebottom *et al*.[18]	Inpatient readmission for any cause within 30 days	Survival analysis using proportional hazards regression P = 0.50	There was no association between study group assignment and 30- day inpatient readmission (adjusting for age, gender, and marital status)
Temel *et al*.[31]	During study period	P value not stated	Any admission from enrolment to death Intervention: 73.5% Control: 76.8%
		P value not stated	Any admission within 30 days of death Intervention: 36.7% Control: 53.6%

Footnote:

n: Number, SD: Standard Deviation

Table 6: Length of hospital admission

Study	Time horizon	Significance and direction	Details
Ahronheim *et al.*[2]	During study period	student's t-test were used P = 0.46	Intervention (mean (range)): 8.8 (1 - 93) Control (mean (range)): 9.7 (1 - 63)
Bakitas *et al.*[56]	During the study	Wilcoxon rank sum test P value = 0.14	Number of hospital days (unclear if mean or median reported) Intervention: 6.6 days Control: 6.5 days
Bakitas *et al.*[61]	Total use covering period before and after enrolment	Poisson generalised linear model P = 0.03 for baseline (total sample of 207) P = 0.26 for total use in 109 decedents	Intervention for baseline sample (days, 95% CI): 0.69 (0.4 to 1.18) Control for baseline sample: 1.39 (0.97 to 1.97) Intervention (total use in 50 decedents): 0.95 (0.61 to 1.46) Control (total use in 59 decedents): 1.3 (0.91 to 1.86)

Brannstrom *et al.*[44]	During the study period	P value for total hospital days = 0.011. The number of days spent in hospital was also significantly lower in the HPC group at the Departments of Medicine-Geriatrics (100, range 1–45 vs. 242, range 2–46 days) and Surgery (0 vs. 56, range 2–21 days). Days in other departments did not differ significantly	Total hospital days, mean (SD) Intervention: 2.9 (8.3) Control: 8.5 (12.4) Days in department of medicine-geriatrics Intervention: 100 (range 1 - 45) Control: 242 (range 2 - 46) Days in department of surgery Intervention: 0 Control: 56 Days in other departments Intervention: 3 (range 1 - 2) Control: 7 (1 - 6)
Brumley *et al.*[70]	During the study	Fewer hospital days in intervention group. Linear regression adjusted for survival, age and severity of illness showed intervention reduced hospital days by 4.36 (P value < 0.001)	No descriptive data provided
Carson *et al.*[3]	Interviewed surrogate decision makers immediately after the second support and information team meeting for the intervention group and 10 days after randomization for the control group, unless the patient had died. All surrogate decision makers were interviewed again by telephone for follow-up beginning 90 days after randomization.	Differences in the number of hospital days were analyzed using nonparametric methods. P value for total hospital days, p = 0.78 P value for deceased patients, p = 0.60 P value for after randomisation, p = 0.51	Hospital days Total hospital days Intervention, median (IQR): 35 (23 to 52) Control, median (IQR): 36 (23 to 54) For deceased patients Intervention (49 deaths), median (IQR): 25 (18 to 36) Control (51 deaths), median (IQR): 24 (14 to 39) After randomisation

			Intervention, median (IQR): 19 (12 to 37) Control, median (IQR): 23 (12 to 39)
Cheung *et al.*[5]	During study period	Fisher's exact test and the Mann-Whitney test P = 0.44	Intervention: median (IQR) hospital length of stay: 5 (8) days Control: median (IQR) hospital length of stay: 11 (27) days
El-Jawahri *et al.*[6]	During study period	P value not stated	Duration of HCT hospitalisation, median (range) Intervention: 20 (12 – 102) days Control: 21 (13 – 40) days
Gade *et al.*[9]	6 months post-index hospitalisation	P value for admission to study enrolment (days), p = 0.36 P value for study enrolment to discharge or death in the hospital (days), p = 0.10 P-value for index hospital length of stay (days), p = 0.57 Continuous measures for IPCS and UC patients were compared using t tests for normally distributed measures and Wilcoxon two-sample tests for measures with skewed distributions.	Admission to study enrolment (days), median (IQR) Intervention: 3 (2, 7) Control: 4 (2, 7) Study enrolment to discharge or death in the hospital (days), median (IQR) Intervention: 3 (1, 6) Control: 2 (1, 5) Index hospital length of stay (days), median (IQR) Intervention: 7 (4, 12) Control: 7 (4, 12)
Grudzen *et al.*[10]	During study period	Index-admission Wilcoxon test *P* = .67 Upto 180 days Wilcoxon test *P* = .14	Hospital days at 180 days Index-admission The authors found no difference in hospital days between the intervention and usual care groups during the index-admission (Wilcoxon test P = .67). Up to 180 days

			The intervention group had slightly more hospital days at 180 days than the usual care group (Wilcoxon test *P* = .14).
Higginson *et al.*[82]	12 weeks following enrolment	Authors stated increased institutional days in control group but p value was not stated. "The control care patients were more likely to be (...) admitted to or seen in hospital"	Intervention: 4/26 (17%) were institutionalised with Mean 19.0 days (SD 21.6) Control: 6/28 (29%) were institutionalised with Mean 30.7 days (SD 32.1)
Higginson *et al.*[86]	Three months before baseline interview	P value not stated	Hospital inpatient days Intervention, mean (SD): 4.5 (6.8) Control, mean (SD): 4.6 (7.6)
Kane *et al.*[89]	During study period	P value for general medical inpatient days, p < 0.05 P value for intermediate care inpatient days p < 0.05	Total inpatient days Intervention, mean per patient: 51 Control, mean per patient: 47.5 General medical Intervention, mean per patient: 13.2 Control, mean per patient: 20.7 Intermediate care Intervention, mean per patient: 8.3 Control, mean per patient: 26.5
Ma *et al.*[15]	During study period	No difference in hospital duration between intervention and control group (p = 0.43)	Hospital duration in days, median (IQR) Intervention: 10 (6 - 15) Control: 11 (6 - 19) P value: 0.43
Mendoza-Galindo *et al.*[25]	Unclear	P = 0.808	Intervention: 78 days Control: 90 days

Ozcelik *et al.*[17]	During study period	p = 0.07	Intervention, mean (SD): 9.4 (6.27) days Control, mean (SD): 13.9 (11.5) days
Temel *et al.*[31]	During study period	P value not stated	Median inpatient days (range) from enrolment to death Intervention: 5 (0 – 50) Control: 7 (0 – 45)

IQR: Interquartile range, SD: Standard Deviation

Table 7: Palliative care visits during hospitalisation

Study	Time horizon	Significance and direction	Details
El-Jawahri *et al*.[6]	During study period	P value not stated	Palliative care visits, median (range) All intervention patients had at least 2 palliative care visits during the first 2 weeks of their hospitalization (median number of visits, 4; range, 2-7). Intervention participants had at least 4 palliative care visits during their entire hospitalization (median number of visits, 8; range, 4-40). Two control patients received a palliative care consultation. A total of 41.8%(146/349) of palliative care visits occurred while a family member was present.
Tattersall *et al*.[30]	During study period	p = 0.37	Palliative care contact during the last acute hospital admission Intervention: 42 patients (86%) Control: 29 patients (78%)

Table 8: Outpatient clinic visits

Study	Time horizon	Significance and direction	Details
Brannstrom *et al*.[44]	During study period	P value for physician visit, p = 0.000 P value for physician, phone calls and prescriptions, p = 0.012	Hospital outpatient clinic Physician visit, n, median (range) Intervention: 27, 1 (4 – 30) Control: 133, 3 (2 -11)

		P value for nurse visits, p = 0.003 P value for nurse visits, phone calls and prescriptions p = 0.003	Physician, phone calls and prescriptions, n, median (range) Intervention: 42, 3 (0 – 8) Control: 86, 3 (0 -10) Nurse visits, n, median (range) Intervention: 4, 1 (0 – 4) Control: 60, 2 (0 -27) Nurse, phone calls and prescriptions, n, median (range) Intervention: 8, 1 (0 – 4) Control: 44, 2 (0 - 8)
Groenvold *et al*.[79]	During study period	P values not stated	Contact with the HPC team, (numbers) Intervention: 138 patients had at least one face-to-face contact Control: 13 patients had at least one face-to-face contact
Higginson *et al*.[82]	12 weeks following enrolment	Hospital specialist visits differences and p value not stated	Hospital specialist visits Intervention: 8 patients (35%) received; Mean 1.0 contacts (SD 0.0) Control: 16 patients (76%) received; Mean 1.3 contacts (SD 0.7)
Rogers *et al*.[99]	During study period	P value not stated	Frequency of interactions occurring between patients and providers Total number of clinic encounter records Intervention, mean (SD): 21.9 (1.99) Control, mean (SD): 20.8 (1.92) Cardiology Intervention, mean (SD): 2.3 (0.55) Control, mean (SD): 3.2 (1.0) Rehabilitation clinic Intervention, mean (SD): 1.4 (0.68) Control, mean (SD): 0.9 (0.48)
Tattersall *et al*.[30]	During study period	P values not stated	Contact with palliative care physician consultant Intervention: 51 patients (85%) Control: 8 patients (13.3%)

			Contact with palliative care physician in the last month of life Intervention: 16 patients (26.7%) Control: 6 patients (10%)
Temel *et al*.[31]	During study period	P values not stated	PC visits All the patients assigned to early palliative care, except for one patient who died within 2 weeks after enrollment, had at least one visit with the palliative care service by the 12th week. The average number of visits in the palliative care group was 4 (range, 0 to 8). Ten patients who received standard care (14%) had a palliative care consultation in the first 12 weeks of the study, primarily to address the management of symptoms, with seven patients having one visit and three having two visits.
Temel *et al*.[101]	During study period	P value not stated	Mean number of palliative care visits Intervention, mean (range): 6.54 (0 to 14) Control, mean (range): 0.89 (0 to 7) Number of palliative care visits split on lung and GI cancer The authors stated that "we explored characteristics between patients with lung and GI cancer and found no differences in baseline measures or in the number of PC visits among those patients who received intervention. However, the GI cancer cohort had a higher proportion of male patients and a greater number of hospitalizations (p = 0.038) from baseline to week 24 compared with the lung cancer cohort"
Vanbutsele *et al*.[102]	During study period	P value not stated for some of the comparisons. However, the authors reported a difference between intervention and control groups for number of consultations with a psychologist (p = 0.02)	Number of consultations from the palliative care team Nurse at 18 weeks Intervention, median (IQR): 3 (1 – 4). 82 patients (89%) had at least one consultations Control, median (IQR): 17 patients (18%) had at least one consultations PC physician at 18 weeks Intervention: 25 patients (27%) Control: 1 patient (1%) Nurses at 24 weeks Intervention, median (IQR): 3 (2 – 5). 55 patients (60%) had at least 3 consultations Control, median (IQR): 12 patients (13%) had at least 3 consultations PC physician at 24 weeks

			Intervention: 32 patients (35%) had at least one consultation Control: 1 (1%) had one consultation Number of consultations with a psychologist 18 weeks Intervention: 34 patients (37%) had at least one consultation Control: 21 patients (22%) had at least one consultation 24 weeks No difference was found between intervention and control groups Number of consultations with other professionals There were no differences between study groups in the number of consultations with a social care nurse (p = 0·87), dietician (p = 0·32), or specialist nurse (p = 0·28) between 18 weeks and baseline; or between 24 weeks and baseline with social care nurse (p = 0·07), dietician (p = 0·95), or specialist nurse (p = 0·99).
Woo *et al*.[41]	During study period	Forwards from enrolment	Consultation with a psychiatrist The proportions that consulted a psychiatrist (12% vs 12%) were similar in the intervention and control groups.

Footnote:

HPC: Hospital Palliative Care, IQR: Interquartile Range, PC: Palliative Care, SD: Standard Deviation

Table 9: Community care services use

Study	Time horizon	Significance and direction	Details
Bakitas *et al*.[61]	Total use covering period before and after enrolment	Poisson generalised linear model P = 0.62	Hospice use Intervention, rate 95% CI : 0.68 (0.55 to 0.84) Control, rate 95% CI: 0.63 (0.51 to 0.78)
Brannstrom *et al*.[44]	During study period	Primary Healthcare Centre P-value for physician, primary healthcare centre (PHC), p = 0.027	Primary Healthcare Centre Physician, primary healthcare centre (PHC), n, median (range)

		P value for physician, phone calls and prescriptions, p = 0.000 P-value for nurse visits, PHC, p = 0.25 P value for nurse visits, phone calls and prescriptions p = 0.010 Home P-value for physician visits, home, p not stated P value for nurse visits, home, p = 0.032 Within the PREFER team there were 158 additional physician visits and 1031 nurse visits at the patient's home, and 36 phone call and/or drug prescriptions by the physician and 225 phone calls and/or prescriptions by the nurses. Summarizing all this, the most striking difference was found between nurse visits in the PREFER group and the usual care group (1075 vs. 230; *P* =0.000). On the other hand, phone calls and prescriptions by doctors were more common in the usual care group (108 vs. 231), while physician's visits were somewhat similar (194 vs. 201).	Intervention: 9, 1 (0 – 3) Control: 54, 2 (0 - 8) Physician, phone calls and prescriptions, n, median (range) Intervention: 30, 1 (0 – 5) Control: 145, 1 (1 - 14) Nurse visits, PHC, n, median (range) Intervention: 29, 1 (0 – 12) Control: 61, 2 (0 - 14) Nurse, phone calls and prescriptions, n, median (range) Intervention: 59, 3 (0 – 9) Control: 153, 4 (1 - 21) Home Physician visits, home, n, median (range) Intervention: 0, 0 (0 – 0) Control: 14, 2 (1 - 5) Nurse visits, home, n, median (range) Intervention: 11, 2 (1 – 3) Control: 109, 5 (1 - 23)
Brumley *et al*.[70]	During study period	Days in hospice care (1of 2 sites only) t 0.52 P value = 0.60	Days in hospice care (1 of 2 sites only) descriptive data not provided
Farquhar *et al*.[74]	During study period	P values not stated	Breathlessness Intervention Service Intervention, n (%), mean (SD) contacts: 27 (96%), 1.9 (2.0) Control, n (%), mean (SD) contacts: 2 (8%), 1.5 (0.7)

		P values not stated	GP Intervention, n (%), mean (SD) contacts: 10 (36%), 1.2 (0.6) Control, n (%), mean (SD) contacts: 13 (50%), 1.3 (0.5)
Farquhar *et al*.[77]	During study period	P values not stated	Breathlessness Intervention Service Intervention, n (%), mean (SD) contacts: 39 (95%), 2.1 (1.0) Control, n (%), mean (SD) contacts: 2 (5%), 1.5 (0.7)
		P values not stated	GP Intervention, n (%), mean (SD) contacts: 25 (61%), 1.8 (1.2) Control, n (%), mean (SD) contacts: 24 (63%), 1.6 (0.7)
Gade *et al*.[9]	6 months post-index hospitalisation	p = 0.09 Continuous measures for IPCS and UC patients were compared using t tests for normally distributed measures and Wilcoxon two-sample tests for measures with skewed distributions	Study enrolment to hospice admission (days), median (IQR) Intervention: 2 (0, 23) Control: 3 (0, 37)
		P = 0.04 Continuous measures for IPCS and UC patients were compared using t tests for normally distributed measures and Wilcoxon two-sample tests for measures with skewed distributions	Hospice length of stay (days), median (IQR) Intervention: 24 (7, 94) Control: 12 (4, 48)
		P = 0.5 Categorical measures were tested using 2 tests or Fisher's exact test.	Patients admitted to hospice, n (%) Intervention: 103 (37.1%) Control: 96 (40.7%)
Grudzen *et al*.[10]	During study period	Fisher's exact test P = 0.85 Chi^2 test P = 0.93	Hospice use at 180 days Intervention: 28% Control: 25%
Higginson *et al*.[82]	12 weeks following enrolment	General practice Authors stated less GP contact in intervention group but p values not stated	General practice Intervention: 8 (35%) received; M 3.8 contacts (SD 0.5)

		District/practice nurse P values not stated MS nurse Authors stated there were no differences (p values not stated) Social services P values not stated Specialist home visit P values not stated	Control: 11 (52%) received; M 3.4 contacts (SD 1.2) "Control care patients were more likely to be in contact with general practitioners" District/practice nurse Intervention: 20 (87%) received; M 12.3 contacts (SD 19.7) Control: 13 (62%) received; M 31.9 contacts (SD 50.7) MS nurse Intervention: 11 (48%) received; M 1.8 contacts (SD 1.8) Control: 7 (33%) received; M 1.1 contacts (SD 0.2) "Receipt of MS nurses was similar in the two groups" Social services Intervention: 10 (43%) received; M 6.4 contacts (SD 7.7) Control: 8 (38%) received; M 4.1 contacts (SD 2.4) Specialist home visit Intervention: 5 (22%) received; M 5.2 contacts (SD 4.5) Control: 0 received Note: authors stated that specialist home visits were most likely to be from the intervention home palliative care team
Kane *et al*.[89]	During study period	P value not stated	Days at home Intervention, mean per patient: 44.8 Control, mean per patient: 37.9

McCaffrey *et al*.[93]	During study period	No difference as increment, mean (95% CI) = 1 (-6.8, 8.6)	Days at home Intervention, mean (95% CI): 13.1 (8.5, 17.7) Control, mean (95% CI): 12.1 (5.9, 18.4)
Rogers *et al*.[99]	During study period	P values not stated	Frequency of interactions occurring between patients and providers Primary care Intervention, mean (SD): 4.4 (0.93) Control, mean (SD): 5.2 (0.82)
Sidebottom *et al*.[18]	Hospice use within 6 of study hospitalisation	Survival analysis using proportional hazards regression P = 0.36	There was no significant association between study group assignment and hospice use within 6 months (adjusting for age, gender, and marital status)
Temel *et al*.[31]	During study period	P = 0.09	Median duration of hospice care, Intervention: 11 days Control: 4 days

Footnote:

GP: General Practitioner, M: Mean, MS: Multiple Sclerosis, n: Number, SD: Standard Deviation

Table 10: Informal care

Study	Time horizon	Significance and direction	Details
Farquhar *et al*.[74]	During study period	P value not stated	**Breathlessness Intervention Service** Intervention, n (%), mean (SD) contacts: 22 (79%), 20.3 (20.8) Control, n (%), mean (SD) contacts: 25 (96%), 23.4 (25.2)
Higginson *et al*.[82]	12 weeks following enrolment	P value not stated	Care by informal caregiver Intervention: 15/23 (65%) received; Mean 152.5 contacts (SD 53.7) Control: 16/21 (76%) received; Mean 151.1 contacts (SD 57.7)

Footnote:

n: Number, SD: Standard Deviation

Table 11: Medications and other resources

Study	Time horizon	Significance and direction	Details
Ahronheim *et al*.[2]	During study period	Pearson chi^2 test P = 0.79	New feeding tube Intervention: 22 (45.8%) Control: 22 (43.1%)
		Pearson chi^2 test P = 0.66	Total feeding tube Intervention: 34 (70.8%) Control: 34 (66.7%)
		Pearson chi^2 test P = 0.44	Mechanical ventilation Intervention: 2 (4.2%) Control: 4 (7.8%)
		Not calculated because expected frequencies < 5 in at least 2 cells	Tracheostomy Intervention: 0 Control: 1
		Not calculated because expected frequencies < 5 in at least 2 cells	CPR Intervention: 0 Control: 3 (5.9%)
		Pearson chi^2 test P = 0.16	Systemic antibiotics (unclear if mean or median presented) Intervention: 73 (79.3) Control: 69 (70.4)
			Interventions during 190 admissions
		Pearson chi^2 test P = 0.025	IV for entire admission (unclear if mean or median presented) Intervention: 61 (66) Control: 79 (81)
		Pearson chi^2 test P = 0.30	Indwelling urinary catheter (unclear if mean or median presented)

			Intervention: 41 (44.6) Control: 51 (52)
		Pearson chi^2 test P = 0.33	Mechanical restraints (unclear if mean or median presented) Intervention: 13 (54.2) Control: 11 (45.8)
		student's t-test P = 0.14	Days with restraints (mean) Intervention: 5.18 Control: 6.56
		Pearson chi^2 test P = 0.089	Daily phlebotomy for at least 50% of admission (unclear if mean or median presented) Intervention: 32 (34.8) Control: 46 (46.9)
		Pearson chi^2 test P = 0.461	Daily sc/im injection for at least 50% of admission (unclear if mean or median presented) Intervention: 16 (17.4) Control: 21 (21.6)
		n.s. Pearson chi^2 test P = 0.12	$\geq$ 1 complex non-invasive test (unclear if mean or median presented) Intervention: 10 (11) Control: 4 (4)
		n.s. Pearson chi^2 test P = 0.215	$\geq$ 1 invasive test (unclear if mean or median presented) Intervention: 5 (4.3) Control: 2 (2)
		Pearson chi^2 test P = 0.15	Number of fingersticks per day in patients receiving insulin (unclear if mean or median presented) Intervention: 1.56 Control: 2.01
			Decisions to forgo treatments
		Not calculated because expected frequencies < 5 in at least 2 cells	Enteral feeds Intervention: 3 (6.3%) Control: 4 (7.8%)

		Not calculated because expected frequencies < 5 in at least 2 cells	Mechanical ventilation Intervention: 3 (6.3%) Control: 0
		Not calculated because expected frequencies < 5 in at least 2 cells	Intravenous lines Intervention: 5 (10.4%) Control: 1 (2%)
		Not calculated because expected frequencies < 5 in at least 2 cells	Blood draws Intervention: 4 (8.3%) Control: 0
		Not calculated because expected frequencies < 5 in at least 2 cells	Antibiotics Intervention: 3 (6.3%) Control: 0
		Pearson chi^2 test P = 0.65	CPR in-hospital (unclear if mean or median presented) Intervention: 62 (67.4) Control: 63 (64.3)
		Pearson chi^2 test P = 0.10	CPR nonhospital (unclear if mean or median presented) Intervention: 47 (51.1) Control: 38 (38.8)
Bakitas *et al*.[56]	During study period	P value = 0.34 Referral to hospice care Fisher exact test P value = 0.75	Referral to palliative care Intervention: 34/145 (23.4%) Control: 39/134 (29.1%) Referral to hospice care Intervention: 6/161 (3.7%) Control: 4/161 (2.5%)
Bakitas *et al*.[61]	Total use covering period before and after enrolment	Poisson generalised linear model P = 0.54	Chemotherapy in last 2 weeks of life Intervention, rate (95% CI): 0.08 (0.03 to 0.2) Control, rate (95% CI): 0.05 (0.02 to 0.15)
Brumley *et al*.[70]	During study period	Referral to hospice care (1of 2 sites only) Chi^2 P value = 0.15	Referral to hospice care (1of 2 sites only) Intervention: 25%

		Days in hospice care (1of 2 sites only) t 0.52 P value = 0.60	Control: 36% Days in hospice care (1 of 2 sites only) descriptive data not provided
Carson *et al*.[3]	Interviewed surrogate decision makers immediately after the second support and information team meeting for the intervention group and 10 days after randomization for the control group, unless the patient had died. All surrogate decision makers were interviewed again by telephone for follow-up beginning 90 days after randomization.	p-value for total ventilator days, P = 0.59 p-value for after randomisation, P = 0.42	Ventilator days Total Intervention, median (IQR): 19 (15 to 31) Control, median (IQR): 21 (14 to 35) After randomisation Intervention, median (IQR): 10 (5 to 20) Control, median (IQR): 12 (5 to 27)
	Interviewed surrogate decision makers immediately after the second support and information team meeting for the intervention group and 10 days after randomization for the control group, unless the patient had died. All surrogate decision makers were interviewed again by telephone for follow-up beginning 90 days after randomization.	P = 0.62	Hospital discharge disposition (81 patients discharged from the hospital in intervention group and 75 in control group). Home Intervention, median (IQR): 15 (19) Control, median (IQR): 18 (24) Home with paid assistance: Intervention, median (IQR): 10 (12) Control, median (IQR): 7 (9) Hospice Intervention, median (IQR): 3 (4) Control, median (IQR): 4 (5) Acute rehabilitation facility Intervention, median (IQR): 22 (27) Control, median (IQR): 15 (20) Long-term acute care hospital

			Intervention, median (IQR): 12 (15) Control, median (IQR): 12 (16) Other acute care facility Intervention, median (IQR): 0 Control, median (IQR): 1 (1) Skilled nursing facility Intervention, median (IQR): 19 (23) Control, median (IQR): 16 (21) Other Intervention, median (IQR): 0 Control, median (IQR): 2 (3)
Farquhar *et al*.[74]	During study period	P value not stated	Other hospital care Intervention, n (%), mean (SD) contacts: 15 (54%), 1.5 (0.8) Control, n (%), mean (SD) contacts: 14 (54%), 1.4 (0.6)
		P value not stated	Nurse Intervention, n (%), mean (SD) contacts: 11 (39%), 3.0 (3.8) Control, n (%), mean (SD) contacts: 12 (46%), 1.8 (1.6)
		P value not stated	Other health professionals Intervention, n (%), mean (SD) contacts: 5 (18%), 1.2 (0.4) Control, n (%), mean (SD) contacts: 3 (12%), 1.0 (0.0)
			Social care Intervention, n (%), mean (SD) contacts: 4 (14%), 4.3 (6.5) Control, n (%), mean (SD) contacts: 3 (12%), 15.7 (22.9)
Farquhar *et al*.[77]	During study period	P value not stated	Other hospital services Intervention, n (%), mean (SD) contacts: 20 (49%), 1.7 (1.0)

			Control, n (%), mean (SD) contacts: 19 (50%), 2.5 (3.5)
		P value not stated	Nurse Intervention, n (%), mean (SD) contacts: 21 (51%), 2.7 (3.3) Control, n (%), mean (SD) contacts: 16 (42%), 2.5 (2.5)
		P value not stated	Other health services Intervention, n (%), mean (SD) contacts: 14 (34%), 1.5 (1.1) Control, n (%), mean (SD) contacts: 4 (11%), 1.0 (0.0)
		P value not stated	Social and other care Intervention, n (%), mean (SD) contacts: 8 (20%), 5.4 (4.6) Control, n (%), mean (SD) contacts: 9 (24%), 11.3 (22.8)
Groenvold *et al*.[79]	During study period	P value not stated	Telephone contact with the HPC team, n Intervention: 116 patients had at least one telephone contact Control: 9 patients had at least one telephone contact
Higginson *et al*.[82]	12 weeks after enrolment	P value not stated	Palliative care nurse Intervention: 9 (39%) received; M 3.0 (SD 1.5) Control: 0 received Other nurse Intervention: 7 (30%) received; M 40.0(SD 63.8) Control: 7 (33%) received; M 95.0 (SD 79.6) Specialist (ward) Intervention: 5 (22%) received; M 1.0 (SD 0.0) Control: 7 (33%) received; M 9.6 (SD 12.1) Specialist (other) Intervention: 4 (17%) received; M 1.1 (SD 0.3) Control: 5 (24%) received; M 1.0 (SD 0.0)

			Occupational therapist/ physiotherapist Intervention: 16 (70%) received; M 10.6 (SD 9.9) Control: 14 (67%) received; M 22.5 (SD 47.7) Dietician/chiropodist Intervention: 12 (52%) received; M 3.5 (SD 2.5) Control: 13 (62%) received; M 2.6 (SD 1.3) Day centre Intervention: 5 (22%) received;M 20.2(SD 21.0) Control: 5 (24%) received; M 20.4 (SD 15.9) Respite care Intervention: 2 (9%) received; M 9.5 (SD 0.7) Control: 5 (24%) received; M 10.0 (SD 5.9)
Janssens *et al*.[49]	During study period	P = 0.819	Use of antibiotics The use of antibiotics (for exacerbations not leading to hospital admission) did not differ between groups during the observation period
Kane *et al*.[89]	During study period	P value for major surgical procedures p < 0.05	Surgical procedures Major surgical procedures Intervention, mean per patient: 0.09 Control, mean per patient: 0.01 Minor surgical procedures Intervention, mean per patient: 0.42 Control, mean per patient: 0.30
		Over 80% of both hospice and control patients had no radiation treatments. However, those few who did had as many as 48 treatments, hence the large number.	Radiation treatments Intervention, mean per patient: 7.4 Control, mean per patient: 7.7
		P = 0.03	Chemotherapy treatments

			Intervention, mean per patient: 1.3 Control, mean per patient: 0.49
Markgren *et al*.[46] (linked to Brannstrom *et al*.[44])	During study period	Only the change in patients receiving full target doses of the ACEIs/angiotensin receptor blockers, BBs and MRAs were higher (p = 0.0009) in the intervention arm than in the control arm.	Prescribed medication use In the intervention arm, the percentages of angiotensin converting enzyme inhibitors (ACEIs) and mineralocorticoid receptor antagonists (MRAs) increased at the end of the study from baseline, while loop diuretics decreased. Beta-receptor blockers (BBs) decreased somewhat in both groups. The number of patients treated with MRAs differed the most between groups, and increased from 10 (28%) to 15 (48%) in the PREFER arm compared with 13 (35%) vs 13 (39%) in the control group. The change in patients receiving full target doses (+8 vs. +1) of the ACEIs/angiotensin receptor blockers, BBs and MRAs were higher (p =0.0009) in the intervention arm than in the control arm.
O'Riordan *et al*.[95]	During study period	p-value for CRT device, p = 0.3 p-value for ACE1/ARB device, p = 0.2 p-value for diuretics, p = 0.2 p-value for spironolactone/eplerenone, p = 0.9 p-value for beta-blockers, p = 0.4	Medications (prescription and over the counter) in the medication list of patients Guideline-driven HF therapies CRT device Intervention: 20% Control: 35.7% ACE1/ARB Intervention: 60% Control: 35.7% Diuretics Intervention: 86.7% Control: 64.3% Spironolactone/eplerenone Intervention: 26.7% Control: 28.6% Beta-blockers Intervention: 66.7% Control: 50%

			Medications for other conditions Cholesterol lowering medication Intervention: 73.3% Control: 50% Anti-anginal Intervention: 20% Control: 14.3% Diabetes medication Intervention: 13.3% Control: 14.3% Antidepressants Intervention: 20% Control: 28.6% Pain medication (NSAIDS and opioids) Intervention: 53.3% Control: 21.4% Anxiety medication Intervention: 0 Control: 7.1% Constipation Intervention: 26.7% Control: 28.6%
Rodin *et al*.[97]	During study period	P value not stated	Referral to palliative care Intervention: 22 (100%) Control: 1 (5%) Referral to social work Intervention: 22 (100%) Control: 20 (100%)

			Referral to psychiatry Intervention: 1 (4.5%) Control: 1 (5%)
Rogers *et al*.[99]	During study period	P value not stated	Frequency of interactions occurring between patients and providers Total number of hospital encounter records Intervention, mean (SD): 2.5 (0.45) Control, mean (SD): 2.4 (0.35) Telephone contact Intervention, mean (SD): 12.6 (1.2) Control, mean (SD): 10.6 (0.88)
Temel *et al*.[31]	During study period	P = 0.05	Aggressive end of life care among 105 decedents (chemotherapy within 14 days before death, no hospice care, or admission to hospice 3 days or less before death) Intervention: 54% Control: 33%
			Chemotherapy within 30 days of death Intervention: 32.5% Control: 42%

Footnote:

CPR: Cardiopulmonary Resuscitation, IQR: Interquartile Range, M: Mean, n: Number, SC/IM: Subcutaneous/Intramuscular, SD: Standard Deviation

Table 12: Studies with qualitative components

Studies	Participants interviewed	Qualitative approach	Findings of the qualitative study	Findings of the quantitative component
Bajwah et al.[42](patients with interstitial lung disease (ILD))	5 patients 5 carers 1 ILD consultant 1 ILD CNS	Semi-structured interviews analysed using a constant comparison approach within framework analysis	Findings Patients and carers interviewed valued the case conference itself as they felt that it "laid everything on the table" and importantly addressed concerns and anxieties that had been playing on patients' and carers' minds. The qualitative work also identified lack of early referral to palliative care by	Primary outcome Symptom burden Mean (SD) POS scores at 4 weeks were -5.7 (7.5) fast-track vs -0.4 (8.0) control, (mean change difference between the two arms was -5.3 (95% CI -9.8 to -0.7) independent t test p = 0.02);

	1 Community matron 1 Community palliative care nurse 1 GP		community health professionals, despite requests from patients and carers, and some gatekeeping by hospital health professionals. Themes from patients Support in the community Crisis management Palliative care, psychological support Advance care planning Themes from health professionals GPs - collaboration of care and efficiency Community palliative care clinical nurse specialist – individual care plans and practical problems addressed ILD consultant – symptom control ILD CNS – empowering health professionals	effect size (95% CI) -0.7 (-1.2 to -0.1). Secondary outcomes The secondary outcomes of quality of life, anxiety and depression were superior in the fast-track arm, and none were worse.
Bakitas *et al*.[57] (linked to Bakitas *et al*.[56]) (ENABLE II) (cancer patients)	35 Oncology clinicians comprising 21 physicians and 14 nurse practitioner	Semi-structured interviews analysed using thematic analysis	Findings Oncologists believed that integrating palliative care at the time of an advanced cancer diagnosis enhanced patient care and complemented their practice. Five themes comprised oncologists' views on the complementary role of palliative care: (1) “refer early and often,” (2) referral challenges: “Palliative” equals “hospice”; “Heme patients are different,” (3) palliative care as consultants or co-managers, (4) palliative care “shares the load,” and (5) ENABLE II facilitated palliative care integration. Self-assessment of their practice with advanced cancer patients comprised four themes: (1) treating the whole patient, (2) focusing on quality versus quantity of life, (3) “some patients just want to fight,” and (4) helping with transitions; timing is everything.	Primary outcomes Quality of life The estimated treatment effects (intervention minus usual care) for all participants were a mean (SE) of 4.6 (2) for quality of life (P = .02) Symptom intensity The estimated treatment effects (intervention minus usual care) for all participants were a mean (SE) of -27.8 (15) for symptom intensity (P = .06) Resource use Intensity of service did not differ between the 2 groups. Secondary outcomes

				The estimated treatment effects (intervention minus usual care) for all participants were a mean (SE) of -1.8 (0.81) for depressed mood (P = .02).
Maloney *et al*.[59] (linked to Bakitas *et al*.[56]) (ENABLE II) (cancer patients)	53 patients (28 females included)	Semi-structured interviews analysed using thematic analysis	Findings Participants' perceptions of intervention benefits were represented by four themes: enhanced problem-solving skills, better coping, feeling empowered, and feeling supported or reassured. Three themes related to trial participation: helping future patients and contributing to science, gaining insight through completion of questionnaires, and trial/intervention aspects to improve. Participants did not describe participation as "burdensome" *per se*, but rather described some inconveniences or disappointments such as non-attendance of meetings by other participants and disappointment at not being randomised to the intervention group.	Primary outcomes Quality of life The estimated treatment effects (intervention minus usual care) for all participants were a mean (SE) of 4.6 (2) for quality of life (P = .02) Symptom intensity The estimated treatment effects (intervention minus usual care) for all participants were a mean (SE) of -27.8 (15) for symptom intensity (P = .06) Intensity of service did not differ between the 2 groups. Secondary outcomes The estimated treatment effects (intervention minus usual care) for all participants were a mean (SE) of -1.8 (0.81) for depressed mood (P = .02).
Talabani *et al*.[48] (linked to Brannstrom *et al*.[44]) (heart failure (HF) patients)	12 patients from the intervention group (8 men included)	Semi-structured interviews analysed using content analysis	Findings Two themes and a total of five categories were identified. The first theme was feeling secure and safe through receiving care at home with the categories: having access to readily available care at home, being followed up continuously and having trust in the team members' ability to help. The second theme was being acknowledged as both a person and a patient, with the following two categories: being met as a person, participating in decisions about one's care and receiving help for symptoms of both HF and comorbidities. The team also offered relatives support, which patients appreciated.	Outcomes Quality of life Between-group analysis revealed that patients receiving HPC had improved HRQoL compared with controls (57.6 ± 19.2 vs. 48.5 ± 24.4, age-adjusted p value = 0.05). Within-group analysis revealed a 26% improvement in the HPC group for HRQoL (P = 0.046) compared with 3% (P = 0.82) in the control group. Quality of life improved by 24% (P = 0.047).

				Symptom burden Total symptom burden improved by 18% (P = 0.035) Resource use Fifteen rehospitalizations (103 days) occurred in the HPC group, compared with 53 (305 days) in the control group.
Farquhar *et al*.[74] (cancer patients)	20 patients (and associated carers)	Semi-structured interviews analysed using framework analysis	Findings Breathlessness intervention service (BIS) reduced fear and worry, and increased confidence in managing breathlessness. Patients and carers consistently identified specific and repeatable aspects of the BIS model and interventions that helped. The multi-disciplinary staff expertise was repeatedly noted. How interventions were delivered was important with a suggestion that the intervention was delivered through the provision of knowledge, with specialist expertise, which increased patients' and carers' confidence. BIS legitimised breathlessness and increased knowledge whilst making patients and carers feel 'not alone'.	Primary outcome BIS reduced patient distress due to breathlessness (primary outcome: −1.29; 95% CI −2.57 to −0.005; P = 0.049) significantly more than the control group; 94% of respondents reported a positive impact (51/53) Secondary outcomes Mean CRQ mastery scores improved only negligibly in the intervention arm and remained stable for controls. No differences were found between trial arms on other CRQ domains (dyspnoea, fatigue or emotional function). Mean anxiety scores (HADS) remained fairly stable (both arms). Mean depression scores decreased slightly in the intervention arm, increasing slightly for controls. There was little change in other patient or carer outcomes. BIS had a 66% likelihood of better outcomes in terms of reduced distress due to breathlessness at lower health/social care costs than standard care (81% with informal care costs included).
Farquhar *et al*.[77] (Non-cancer (majorly COPD)	20 patients (and associated carers)	Semi-structured interviews analysed using framework analysis	Findings Patients with non-malignant conditions and their carers described a range of impacts including reduced fear, anxiety, worry, and feelings of panic, as well as feeling more confident about breathlessness. They valued the multi-disciplinary staff	Primary outcome There was a no difference between groups in the primary outcome ("distress due to breathlessness"), when compared to standard

			expertise (their knowledge and understanding of life with breathlessness), the characteristics of the BIS staff (their approachability and attentiveness) and their reassuring and positive approach, and the time BIS gave them to talk about breathlessness with an expert. They reported that being seen at home was especially helpful. The findings suggests that it was not only the provision of these interventions that was important, but also that how they were delivered was key to their impact: delivery of interventions through the provision of knowledge (why and how interventions work or specific guidance on how and when to use a particular intervention) increased patients' and carers' confidence.	care, of –0.24 (95 % CI: –1.30, 0.82). Secondary outcomes Mean CRQ mastery scores improved slightly on both arms with greater improvement in the intervention arm. No differences were found between trial arms on other CRQ domains (dyspnoea, fatigue or emotional function). Mean patient anxiety scores decreased slightly for the intervention arm and increased slightly for the control arm and mean depression scores decreased slightly in the intervention arm and remained stable for controls; no between group difference was found. Mean anxiety scores for carers achieved a greater, 1.65-point, reduction in the intervention arm compared with a 0.15-point reduction for controls, adjusted difference of –1.22 (95 % CI: –2.84 to 0.40), p = 0.14. There was little change in other patient or carer secondary outcomes. Carers of patients randomised to the intervention arm achieved a greater, 1.03-point, reduction in their distress due to their patient's breathlessness compared with a 0.2-point increase for controls, adjusted difference of –0.42 (95 % CI: –1.86 to 1.02), p = 0.56. BIS resulted in extra mean costs of GBP799, reducing to GBP 100 when outliers were excluded.
Hopp *et al*.[14] (patients with heart failure)	85 patients	Unclear although the authors stated that clinical records were qualitatively reviewed	Findings Patients expressed concerns about hospital palliative care as it might prevent them from receiving more aggressive treatment. Most patients did not engage with advanced care options.	Primary outcome There was no difference between groups in the primary outcome (election vs non-election of measure of comfort-oriented care) (difference 9.3%, 95% CI -11.8% to 30%; p = 0.12)

Veron *et al*.[106] (linked to Janssens *et al*.[49]) (COPD patients)	18 patients (44.4% females)	Semi-structured interviews analysed using thematic content analysis	Findings Patients described poor recollection of the RCT and difficulties understanding the palliative care intervention. No major differences were observed between patients who received the specialised intervention and those who did not. Content analysis emphasized that although they experienced disabling symptoms, participants tended to attribute their limitations to problems other than COPD and some declared that they were not sick. Patients reported restrictions due to oxygen therapy, and the burden of becoming dependent on it. This dependence resulted in intense anxiety, leading participants to focus on the present only. A strong feeling of perceived helplessness emerged from the patients' interviews.	Primary outcomes Patients in the HPC group were hospitalised for respiratory failure (Incidence rate ratio (IRR) 1.87, 95% CI 1.04 to 3.48, p = 0.026) and admitted to the emergency ward (IRR 2.05, 95% CI 1.11 to 3.94, p = 0.014) twice as often during follow-up than the control group. However, after the Benjamini and Hochberg correction for multiple testing, none of these differences was significant. Furthermore, median values were identical in both groups (hospitalisation: median (IQR): 0.0 (1 to 2) vs. 1.5 (1 to 4), p = 0.219; admissions to emergency wards: 1.0 (0; 3) vs. 1.0 (0; 4), p = 0.484). Secondary outcomes There was no difference in HRQoL assessed using the SF-36 between the HPC and control group. There was no difference in anxiety and depression measured by the HADS-anxiety and HADS-depression between the intervention and control group. At inclusion, 3 patients in each group had completed their advanced care planning (ACP) directives (p = 1.00). At the end of the study, 9 patients (35%) of the intervention group versus 3 (13%) of the control group had completed ACP directives (p = 0.194). There was therefore a difference in the number of patients who wrote their ACP directives in favour of the intervention group (p = 0.023). Survival did not differ between the groups (p = 0.913). 8 deaths occurred, 4 in each group. In the intervention group, survival was 454 days (1.24 years; 95% CI: 382 to 525 vs. 425 days (1.16 years; 95% CI: 339 to 509) in the control group; p = 0.592.

Lowther *et al*.[24] (linked to Lowther *et al*.[21]) (HIV patients)	20 patients (predominantly females (85%)) from the intervention group	Semi-structured interviews analysed using thematic content analysis	Findings Patients reported that having time to talk, appropriate pain medication and effective health education was of therapeutic value for their psychological well-being. Integration of mixed method findings suggest that positive effect in quantitative measures of mental health and well-being are attributable to the active ingredients of: appropriate medication, effective health education and counselling, and having time to talk in clinical encounters. Mechanisms of action include symptom relief, improved understanding of illness and treatment, and support focused on articulated concerns. Participants whose quality of life remained static or deteriorated reported concurrent intractable physical or social problems which prevented them from fulfilling their social roles and led to financial difficulties. This in turn led to stress, which was a barrier to positive psychological and well-being.	Primary outcome In the control group, median pain score on the pain item of the APOS (range: 0 to 5; 0 indicates worst pain) improved from 1.0 (IQR 0.0 to 2.0) at baseline to 5.0 (3.0 to 5.0) at 4 months; in the HPC group, it improved from 1.0 (0.0 to 2.0) at baseline to 4.5 (3.0 to 5.0) at 4 months. There was no between-group difference (coefficient -0.01, 95% CI -0.36 to 0.34, p = 0.95). Secondary outcomes Person-centred assessment and care delivered by staff who have received additional training had positive effects on self-reported mental health related quality of life and psychosocial wellbeing.
Giovannetti *et al*.[54] (linked to Solari *et al*.[53]) (multiple sclerosis)	12 patients, 15 caregivers, 8 physicians and nine members of HPC team.	Semi-structured interviews analysed using framework method	Findings Three themes emerged from the interviews: 'expectations,' 'met and unmet needs', and 'barriers'. Participants described benefits from the intervention such as improved control of symptoms and reduced sense of isolation of the patient-caregiver dyads. Patient-caregiver dyads valued the expertise of the HPC team. Limitations identified include factors related to experimental design (difficulty of dyads in identifying examiner and team roles, additional burden for caregivers); team issues (insufficient team building/supervision, competing priorities); limitations of the intervention itself (insufficient length, lack of rehabilitation input); and external factors (resource limitations, under-responsive services/professionals). The referring physician focus groups provided little experiential data.	Primary outcomes There was greater reduction in symptom burden (POS-S-MS) in the HPC group compared to usual care (p = 0.047). Effect size was 0.20 at 3 months and 0.32 at 6 months. Changes in quality of life (SEIQoL-DW index) did not differ between the two groups. Secondary outcomes There were no differences between the secondary patient (POS, HADS, FIM total score) and carer outcomes (ZBI) at three and six months. There were 22 serious adverse events in 20 patients, 15 events in 13 patients in the HPC group (30%) and 7 events in 7 patients in the control group (27%; p = 0.78).

Slota *et al*.[105] (linked to Wallen *et al*.[104] (cancer patients)	In Wallen *et al*.[104], n was unclear while Slota *et al*.[105] had 34 participants	Open-ended, qualitative questions on a questionnaire. Method of analysis stated in Wallen *et al*.[104] was transcript-based analysis while thematic analysis was stated in Slota *et al*.[105]	Findings Patients identified consistent communication, emotional support, and pain and symptom management as positive contributions delivered by the intervention. Consistent communication was described in terms of the team as a whole and their focus on individualising patients' pain and comfort needs. When describing emotional support or ''being there'' participants emphasized the support and reassurance they felt knowing the Pain and Palliative Care Team was available across time. They saw team members as their advocates.	Primary outcomes and secondary outcomes There was no difference between HPC and control group. However, for those who remained on study for 12 months, the HPC group performed better than their standard of care counterparts.

Footnote:

APOS: African Palliative Care Outcome Scale, CNS: Clinical Nurse Specialist, CRQ: Chronic Respiratory Questionnaire, GBP: Great British Pounds, GP: General Practitioner, HADS: Hospital Anxiety and Depression Scale, HRQL: Health-Related Quality of Life, n: Number, HPC: Hospital Palliative Care, IQR: Interquartile range, POS: Palliative Care Outcome Scale, SE: Standard Error, SEIQoL-DW index: Schedule for the Evaluation of Individual Quality of Life-Direct Weighting index, ZBI: Zarit Burden Inventory

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