National Institute for Health and Care Excellence

Final

End of life care for adults: service delivery

[E] Evidence review: Multiprofessional team

NICE guideline NG142

Evidence review

October 2019

Final

Developed by the National Guideline Centre, hosted by the Royal College of Physicians

Disclaimer

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or service users. The recommendations in this guideline are not mandatory and the guideline does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and, where appropriate, their carer or guardian.

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1.1 Review question: What is the best composition of a multiprofessional team to facilitate the continuity and coordination of care for people who are in their last year of life?

1.2 Introduction

NHS England defines a multiprofessional team as one where health and care professionals work together. The aim of a multiprofessional team is to appropriately utilise knowledge, skills and best practice from multiple disciplines and across all services provider boundaries (i.e. health, social care or voluntary and private sector). Multiprofessional teams work together to define, re scope and reframe health and social care delivery issues and reach solutions based on an improved collective understanding of complex patient need(s).

This review evaluates the clinical and cost-effective compositions of multiprofessional teams for patients who are in the last 12 months of life with complex needs.

1.3 PICO table

For full details see the review protocol in Appendix A.

Table 1: PICO characteristics of review question

Population	Adults (aged over 18 years) with progressive life-limiting conditions thought to be entering the last year of life
Intervention	Multiprofessional team service
Comparisons	Multiprofessional team service Other service (not based on Multiprofessional team) Usual care
Outcomes	CRITICAL - Quality of life (Continuous) - Preferred and actual place of death (Dichotomous) - Preferred and actual place of care (Dichotomous) IMPORTANT - Length of survival (Dichotomous) - Length of stay (Continuous) - Hospitalisation (Dichotomous) - Number of hospital visits (Dichotomous) - Number of visits to accident and emergency (Dichotomous) - Number of unscheduled admissions (Dichotomous) - Use of community services (Dichotomous) - Patient/carer reported outcomes (satisfaction) (Continuous) - Staff satisfaction (Continuous) - Avoidable/inappropriate admissions to ICU (Dichotomous) - Inappropriate resuscitation (Dichotomous)
Study design	Systematic Review RCT Non-randomised comparative study

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1.4 Clinical evidence

1.4.1 Included studies

Ten studies (reported in 12 papers) were included in the review[34,36,71,86,103,104,112-114,174,189,217]; these are summarised in Table 2 below. Evidence from these studies is summarised in the clinical evidence summary below (Table 3). See also the study selection flow chart in Appendix B, forest plots in Appendix D, study evidence tables in Appendix E, GRADE tables in Appendix G and excluded studies list in Appendix I.

1.4.2 Excluded studies

See the excluded studies list in Appendix I.

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1.4.3 Summary of clinical studies included in the evidence review

Table 2: Summary of included studies

Study	Intervention and comparison	Population	Outcomes	Comments
Brumley 2003 [36]	Multiprofessional team service: Multiprofessional palliative care program (TCPC), an interdisciplinary home-based program for patients at the end of life. The program offers enhanced pain control, symptom management and psychosocial support to improve quality of life. Care is provided by a core team consisting of a physician, nurse and social worker with expertise in pain control, other symptom management and psychosocial intervention. Patients are assigned a palliative care physician who coordinates care from a variety of health care practitioners. Home visits are provided by all team members (including physicians) to provide medical care, support and education as needed by patients and their caregivers. Telephone support and afterhours visits are available 24/7, as needed by the patient. ACP is provided. Usual care: hospice patients who did not receive the program	Hospice homebound patients with a diagnosis of a life threatening disease, primarily Chronic obstructive pulmonary disease (COPD), Chronic heart failure (CHF), or cancer; two or more emergency department visits or hospital admissions in the past year, and limited life expectancy (not more than approximately one year to live). N=558 USA	Preferred and actual place of death; Use of community services (physicians visits; skilled nursing care visits, total home care visits); Number of hospital visits; Number of visits to accident and emergency	
Brumley 2007 [34]	Multiprofessional team service: In house palliative care program (IHCP), designed to provide treatment to	Patients with a primary diagnosis of chronic heart failure, chronic obstructive pulmonary disease or	Hospitalisation; Number of visits to accident and emergency;	

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Study	Intervention and comparison	Population	Outcomes	Comments
	enhance comfort, manage symptoms and improve quality of life. Interdisciplinary team approach: core care team consists of patient and family, physician, nurse and a social worker with expertise in symptom management and bio-psychosocial intervention; responsible for coordinating and managing care across all settings and providing assessment, evaluation, planning, care delivery, follow up, monitoring and continuous reassessment of care. Additional team members: spiritual counsellor, or chaplain, bereavement, coordinator, home health aide, pharmacist, dietician, volunteer, physical therapist, occupational therapist, and speech therapist. Usual care: standard care including various amounts and levels of home health services, acute care services, primary care services and hospice care, plus on-going home care for acute conditions	cancer and a life expectancy of 12 months or less, who visited the emergency department or hospital at least once within the previous year, and scored 70% or less on the Palliative Performance Scale N=310 USA	Use of community services; Preferred and actual place of death; Patient/carer reported outcomes (satisfaction); Length of survival	
Gade 2008[71]	Multiprofessional team service: Interdisciplinary inpatient palliative care consultative service (IPCS) including a palliative care physician and nurse, hospital social worker and chaplain. All teams provided care in accordance with key palliative care components: assessment of patient knowledge and perception of disease, discussion of medical issues, assisting	Patients hospitalised with at least one life-limiting diagnosis and whose attending physician indicated they would not be surprised if the patient died within 1 year. N=517 USA	Quality of life (self-reported quality of life); Length of stay (index hospitalisation; hospice); Length of survival; Use of community services (patients admitted to hospice); Patient/carer reported outcomes (satisfaction)	

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Study	Intervention and comparison	Population	Outcomes	Comments
	patient to identify personal goals for end of life care, assessment and management of physical symptoms, assessment and management of psychological, spiritual, and practical needs, assessment of discharge planning. Team was available Monday-Friday but a PC physician was on call after hours. N=280 Usual care: usual hospital care N=237			
Hanks 2002[86]	Multiprofessional team service: this was the usual service delivered by the Palliative Care Team (PCT), which during the study comprised two clinical academic consultants, one specialist registrar and three clinical nurse specialists (2.5 full-time equivalents). The PCT had close links with a clinical psychologist, a local hospice and community based palliative care services and access to social workers, rehabilitation staff and the chaplaincy in the hospital. Initial assessment of patients was undertaken by a specialist doctor or specialist nurse, either alone or together, and detailed advice about any problems identified was written in the patients' case notes and communicated to the patient's medical and nursing team	All new inpatient referrals to the Palliative Care Team, were assessed for entry into the study. Initially only patients with cancer were included, but following a pilot study, all diagnostic groups were admitted. N=261 UK	Length of stay; Number of unscheduled admissions (readmissions); Preferred and actual place of care (days spent at home); Use of community services (G.P. visits per day spent at home; district nurse visits); Patient/carer reported outcomes (patient satisfaction: information given about illness; information given about treatment and medication; availability of doctors for discussions; availability of nurses for discussion); Patient/carer reported outcomes (carer satisfaction: information giving; availability of care; physical patient care; psychosocial care); Quality of life (HRQoL).	

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Study	Intervention and comparison	Population	Outcomes	Comments
	Usual care. Telephone PCT. This was a more limited form of the intervention above. There was no direct contact between the PCT and the patient or their family. Instead within one working day of referral, a telephone consultation took place between a senior medical member of the PCT and the referring doctor and also between a PCT nurse specialist and a member of the ward nursing staff directly involved with the patient.			
Hughes 2000[104]; Hughes 1992 [103]	Multiprofessional team service. The program encompasses an interdisciplinary team that is led by a physician and includes nurses, a social worker, a physical therapist, a dietician and health technicians. The program orientated, interdisciplinary patient care plans at team meetings and schedules visits according to patient need. The Hospital-based team home care (HBHC) physician also manages the HBHC patients both in and out of hospital. The model emphasises the provision of comprehensive services based on need, the importance of timely communication about patients across team members and the instruction and involvement of informal caregivers to the maximum possible extent. Multiprofessional team service. Service delivered by skilled nursing team. No other details provided.	Admissions admitted to medicine, surgery and neurology with a prognosis of a life expectancy less than six months. All patients had to have a caregiver who was willing to take major responsibility for assisting the patient upon discharge from acute care. N=171 USA	Length of stay; Rehabilitation days; Intermediate bed days; General bed days; Total days; Emergency room visits; Extended care days; Outpatient visits; Length of survival	

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Study	Intervention and comparison	Population	Outcomes	Comments
Jongen 2011[112]	Multiprofessional team service: multiprofessional palliative care team (PCT) palliative care composed of nurses, a medical oncologist, a neurologist and a team of Anaesthesiologists. The team can be consulted for palliative care for cancer patients and is available 24/7. The aim of the PCT is to deliver rapid symptom control and accelerated transfer to an out-of-hospital setting. The PCT focuses on symptom management, psychosocial support and medical decision making at the end of life. Usual care: routine oncological care, historical control group. Symptomatic cancer pain relief was provided by palliative care nurses and consulting anaesthesiologists, the latter as a 24/7 service.	Patients with advanced cancer. N=365 Netherlands	Length of stay (hospital); Use of community service	
Jordhoy 2000, 2001[113,114]	Multiprofessional team service: Palliative Medicine Unit (PMU), including outpatient and inpatient clinics as well as a multiprofessional consultant team working daytime hours. The team is composed of 2 palliative care nurses, 0.5 (part time) physiotherapist, 1 social worker, 1 nutritionist, 1 priest and 1 physician serving PMU outpatients and inpatients clinic and community professionals working with patients admitted to the palliative care program. Intervention was based on a	People with incurable malignant disease, life expectancy of 2-9 months (estimated at referral) N=434 Norway	Quality of life; Length of stay (hospital, nursing home); Hospitalisation; Use of community services; Preferred and actual place of death	

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Study	Intervention and comparison	Population	Outcomes	Comments
	holistic philosophy, including a multiprofessional approach to the patients' needs (physical, psychological, social and spiritual needs). Usual care: conventional care for advanced cancer patients shared among the hospital departments and the community according to diagnosis and medical needs. No well-defined follow-up routine. Poor communication between levels of services. No specialist palliative care service available. No multiprofessional team.			
Ozcelik 2014 [174]	Multiprofessional team service: Immediate consultation and follow up in the case management by the palliative care team (including a medical oncologist, a case manager nurse, and a clinical nurse, an algologist, a psychiatrist, a physical therapy expert, a social services expert, and a liaison consultant nurse with a doctorate in psychiatry) based on a philosophy of multiprofessional care. After a comprehensive diagnosis, effective symptom management, psychological stress management, social support, care and training support, and family counselling services were organised. Standard care: An oncologist obtained medical history, examined the patient, and ordered various tests. Treatment plans were made, and orders given to	Patients with acute need for palliative care, aged older than 18 years, advanced stage cancer, with a life expectancy of between 6 to 12 months. N=44 Turkey	Quality of life; Patient satisfaction; Family satisfaction	Data for quality of life was edited (negative change scores transformed to positive change scores) as results were incorrectly reported by the paper.

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Study	Intervention and comparison	Population	Outcomes	Comments
	ward nurses. The nurses provided the treatment, according to doctors' orders and implemented usual nursing care.			
Sahlen 2016 [189]	Multiprofessional team service: Patients offered a multiprofessional approach involving collaboration between specialists in palliative and heart failure care, (specialised nurses, palliative care nurses, cardiologist, palliative care physician, physiotherapist, and occupational therapist). Full access to hospital-based emergency care. The programme included patient education on self-care maintenance and management of heart failure; establishment of an ACP, designed with patients and revised regularly. Key individuals for example, nurse and physician were identified for each patient (point of contact). Out of hours providers were informed of the identity of these patients and know how to respond to calls. Standard care: standard care usually provided by a primary health care centre or the nurse-led heart failure clinic at the hospital. Full access to hospital-based emergency care.	Confirmed diagnosis of CHF according to criteria of European Society of Cardiology, NYHA functional class 3 symptoms, one of: hospitalised episode of worsening heart failure that resolved with the injection/infusion of diuretics or addition of other heart failure treatment in the preceding 6 months; the need for frequent or continual iv support; chronically poor quality of life; signs of cardiac cachexia; and life expectancy of <1 year. N=72 Sweden	Quality of life (EQ5D)	
Tan 2016[217]	Multiprofessional team service. A multiprofessional team comprised physicians, nurses and medical social workers with an oversight of care provided by a specialist palliative care	Patients diagnosed with cancer, with an expected prognosis of 1 year or less, and were referred to a home hospice. N=593	Hospitalisation (hospitalisation at 6 months, 3 months and 1 month prior to death); Number of visits to A&E;	

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Study	Intervention and comparison	Population	Outcomes	Comments
	physician. They provided holistic, 24/7 hospice home care services including nursing and medical care to manage patients' pain and symptoms coaching for caregivers on how to care for patients at home, psychosocial care to assist patients and families with the emotional and social aspects of coping with patients' illness and bereavement counselling after death. There was nurse-led case management whereby the nurses work closely with the other healthcare professionals in the team to develop care plans for their patients and discussed complex cases during multiprofessional case conferences. ACP was conducted using a structured approach. The team ensured that the patients' preferences, in a 'Preferred Plan of Care' were made known to all providers involved in the care of the patient by means of a patient-held medical records as well as electronic medical records. Intervention 2: Usual care. Hospice home care was provided by Voluntary Welfare Organisations in Singapore. There was little formal integration and coordination existing between hospices and acute care providers	Singapore.	Preferred and actual place of death (location of death: home; inpatient hospice; hospital; nursing home)	

See Appendix D for full evidence tables.

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1.4.4 Quality assessment of clinical studies included in the evidence review

Table 3: Multiprofessional team versus usual care: data unsuitable for GRADE due to inadequate reporting of outcome measure

Study	Outcome	Intervention results	Intervention group (n)	Comparison results	Comparison group (n)	Risk of bias[a]
Brumley 2007[34]	Preferred and actual place of death (death at home)	OR 2.2 (CI 1.3-3.7), controlling for age, survival time and medical condition. 75% (n=223) of people included in the final analysis died during the study period; for 98% (n=219) of these site of death data was available. Intervention group (n not reported): 71% died at home; control group (n not reported): 51% died at home.				High
	Patient/carer reported outcomes (satisfaction, Reid Gunlach Satisfaction with Services instrument 0-45 at 90 days after enrolment	OR 3.37 (CI 0.65-4.96), N=149 (N for separate groups not reported)				Very high
Gade 2008[71]	Length of survival (Survival from study enrolment (days))	Median (IQR): 30 (6, 104)	280	Median (IQR): 36 (13, 106)	237	Very high
	Length of survival (Survival from study enrolment for patients who did not die during index hospitalization (days))	Median (IQR): 43 (17, 134)	228	Median (IQR): 43.5 (16, 117)	218	Very high
	Length of stay (hospice length of stay)	Median (IQR): 24 (7, 94)	280	Median (IQR): 12 (4, 48)	237	Very high
	Length of stay (index hospitalisation length of stay)	Median (IQR): 7 (4, 12)	280	Median (IQR): 7 (4, 12)	237	Very high
Hanks 2016[86]	HRQoL (difference in means at 1 week adjusted for baseline)	OR 2.35 (CI -3.7, 8.4) p=0.45 N=117 for Full PCT group and N=56 for telephone group.				Very high
Jongen 2011[112]	Length of stay (duration of hospital stay) end of follow up	Median: 10 (1-63)	235	Median: 14 (1-61)	130	Very high
Jordhoy 2000[113,114]	EORTOC-QLQ-C30 Functioning scales (Cognitive)	Mean: 71	56	Mean: 72	52	Very high

Study	Outcome	Intervention results	Intervention group (n)	Comparison results	Comparison group (n)	Risk of bias[a]
	EORTOC-QLQ-C30 Functioning scales (Emotional)	Mean: 71	56	Mean: 76	52	Very high
	EORTOC-QLQ-C30 Functioning scales (Global health)	Mean: 55	56	Mean: 52	52	Very high
	EORTOC-QLQ-C30 Functioning scales (Physical)	Mean: 53	56	Mean: 56	52	Very high
	EORTOC-QLQ-C30 Functioning scales (Role)	Mean: 47	56	Mean: 43	52	Very high
	EORTOC-QLQ-C30 Functioning scales (Social)	Mean: 67	56	Mean: 58	52	Very high
Sahlen 2016[189]	Quality of life (EQ5D)	Mean change score: +0.006	36	Mean change score: -0.024	36	High
Ozcelik 2014[174]	Patient/carers reported outcome (Patient satisfaction)	Mean: 4.15	22	Mean:3.27	22	High
	Patient/carers reported outcome (Family satisfaction)	Mean: 4.06	22	Mean:3.07	22	High

[a] Risk of bias is from checklist for individual studies, see evidence tables for more details.

Table 4: Clinical evidence summary: Multiprofessional team (multiprofessional palliative care program) versus usual care

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (home-based palliative care program) (95% CI)
People dying at home	298 (1 study)	⨁⊖⊖⊖ VERY LOW[a,b] due to risk of bias, indirectness	RR 1.53 (1.31 to 1.79)	568 per 1000	301 more per 1000 (from 176 more to 449 more)

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (home-based palliative care program) (95% CI)
Number of hospital visits	300 (1 study)	⨁⊖⊖⊖ VERY LOW[b,c] due to risk of bias, imprecision	-	The mean number of hospital visits in the control groups was 9.352	The mean number of hospital visits in the intervention groups was 6.99 lower (9.46 to 4.52 lower)
Number of visits to accident and emergency (ED visits)	300 (1 study)	⨁⊖⊖⊖ VERY LOW[b,c] due to risk of bias, imprecision	-	The mean number of visits to accident and emergency (Emergency Department visits) in the control groups was 2.297	The mean number of visits to accident and emergency (Emergency Department visits) in the intervention groups was 1.37 lower (1.78 to 0.95 lower)
Use of community services (physicians visits)	300 (1 study)	⨁⊖⊖⊖ VERY LOW[b,c] due to risk of bias, imprecision	-	The mean use of community services (physicians visits) in the control groups was 11.089	The mean use of community services (physicians visits) in the intervention groups was 5.75 lower (8.9 to 2.6 lower)
Use of community services (skilled nursing care visits)	300 (1 study)	⨁⊖⊖⊖ VERY LOW[b,c] due to risk of bias, imprecision	-	The mean use of community services (skilled nursing care visits) in the control groups was 4.575	The mean use of community services (skilled nursing care visits) in the intervention groups was 3.72 lower (6.2 to 1.24 lower)
Use of community services (total home health visits)	300 (1 study)	⨁⊖⊖⊖ VERY LOW[b,c] due to risk of bias, imprecision	-	The mean use of community services (total home health visits) in the control groups was 13.247	The mean use of community services (total home health visits) in the intervention groups was 21.8 higher (14.63 to 28.98 higher)

[a] Downgraded by 1 or 2 increments because the majority of the evidence had indirect outcomes
[b] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs
[c] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias

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Table 5: Clinical evidence summary: Multiprofessional team (in-home palliative care service) versus usual care

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (In-home palliative care service) (95% CI)
Hospitalisation (people hospitalised) - MPT (In-home palliative care service) versus usual care	297 (1 study)	⊕⊕⊕⊖ [a] due to risk of bias	RR 0.58 (0.45 to 0.75)	618 per 1000	260 fewer per 1000 (from 154 fewer to 340 fewer)
N of visits to A&E (people accessing Emergency Department) - MPT (In-home palliative care service) versus usual care	297 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b,c] due to risk of bias, indirectness, imprecision	RR 0.61 (0.41 to 0.9)	329 per 1000	128 fewer per 1000 (from 33 fewer to 194 fewer)
Use of community services (people enrolled in hospice) - MPT (In-home palliative care service) versus usual care	297 (1 study)	⊕⊕⊖⊖ LOW[a,c] due to risk of bias, imprecision	RR 0.69 (0.48 to 0.98)	362 per 1000	112 fewer per 1000 (from 7 fewer to 188 fewer)
Length of survival (days of survival after enrolment)	297 (1 study)	⊕⊕⊕⊖ [a] due to risk of bias	-	The mean length of survival (days of survival after enrolment) in the control groups was 242	The mean length of survival (days of survival after enrolment) in the intervention groups was 46 lower (87.51 to 4.49 lower)

a Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
b Downgraded by 1 increment because the majority of the evidence had indirect outcomes
c Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

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Table 6: Clinical evidence summary: Multiprofessional team (inpatient palliative care team) versus MPT (palliative care unit)

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (inpatient palliative care team) (95% CI)
Use of community services (people admitted to hospice)	512 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b] due to risk of bias, imprecision	RR 0.92 (0.74 to 1.15)	405 per 1000	32 fewer per 1000 (from 105 fewer to 61 more)
Patient/carer reported outcomes (doctor, nurses/other health professional providers)	341 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b] due to risk of bias, imprecision		The mean patient/carer reported outcomes (doctor, nurses/other health professional providers) in the control groups was 7.4	The mean patient/carer reported outcomes (doctor, nurses/other health professional providers) in the intervention groups was 0.6 higher (0.27 to 0.93 higher)
Patient/carer reported outcomes (place of care environment scale)	295 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b] due to risk of bias, imprecision		The mean patient/carer reported outcomes (place of care environment scale) in the control groups was 6.4	The mean patient/carer reported outcomes (place of care environment scale) in the intervention groups was 0.4 higher (0.16 to 0.64 higher)
Quality of life (self-reported quality of life, MCHPQ 0-10 (Modified City of Hope Patient Questionnaire))	390 (1 study)	⊕⊖⊖⊖ VERY LOW[a,c] due to risk of bias, indirectness		The mean quality of life (self-reported quality of life, MCHPQ 0-10) in the control groups was 6.3	The mean quality of life (self-reported quality of life, MCHPQ 0-10) in the intervention groups was 0.1 higher (0.34 lower to 0.54 higher)

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs
[c] Downgraded by 1 or 2 increments because the majority of the evidence had indirect outcomes (proxy and patients combined responses)

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Table 7: Multiprofessional Team (Palliative care team) versus usual care (telephone palliative care team)

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with usual care	Risk difference with MPT (Palliative care team) versus usual care (telephone palliative care team) (95% CI)
Length of stay in hospital	109 (1 study)	⊕⊕⊖⊖ LOW[a,c] due to risk of bias, imprecision	-	The mean length of stay in hospital in the control group was 13.2	The mean length of stay in hospital in the intervention groups was 1.5 higher (2.4 lower to 5.4 higher)
Readmissions	109 (1 study)	⊕⊕⊖⊖ LOW[a] due to risk of bias	-	The mean readmissions in the control group was 0.18	The mean readmissions in the intervention groups was 0 higher (0.16 lower to 0.16 higher)
GP visits per day spent at home	109 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b] due to risk of bias, indirectness	-	The mean G.P. visits per day spent at home in the control group was 0.13	The mean G.P visits per day spent at home in the intervention groups was 0.1 higher (0.42 lower to 0.62 higher)
District nurse visits per day spent at home	109 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b] due to risk of bias, indirectness	-	The mean district nurse visits per day spent at home in the control group was 0.34	The mean district nurse visits per day spent at home in the intervention groups was 0.11 higher (13.16 lower to 13.38 higher)
Patient satisfaction: information given about illness	187 (1 study)	⊕⊕⊖⊖ LOW[a,c] due to risk of bias, imprecision	-	The mean patient satisfaction: information given about illness in the control group was 3.3	The mean patient satisfaction: information given about illness in the intervention groups was 0.2 higher (0.08 lower to 0.48 higher)
Patient satisfaction: information given about treatment and medication	186 (1 study)	⊕⊕⊕⊖ [a] due to risk of bias	-	The mean patient satisfaction: information given about treatment and medication in	The mean patient satisfaction: information given about treatment and medication in the intervention groups was 0.1 higher (0.06 lower to 0.26 higher)

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Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with usual care	Risk difference with MPT (Palliative care team) versus usual care (telephone palliative care team) (95% CI)
				the control group was 3.5	
Patient satisfaction: availability of doctors for discussion	187 (1 study)	⊕⊕⊕⊖ [a] due to risk of bias	-	The mean patient satisfaction: availability of doctors for discussion in the control group was 3.5	The mean patient satisfaction: availability of doctors for discussion in the intervention groups was 0.1 higher (0.13 lower to 0.33 higher)
Patient satisfaction: availability of nurses for discussions	185 (1 study)	⊕⊕⊕⊖ [a] due to risk of bias	-	The mean patient satisfaction for availability of nurses for discussions in the control group was 3.6	The mean patient satisfaction: availability of nurses for discussions in the intervention groups was 0 higher (1.2 lower to 1.2 higher)
Carer satisfaction: information giving	102 (1 study)	⊕⊕⊖⊖ LOW[a,c] due to risk of bias, imprecision	-	The mean carer satisfaction: information giving in the control group was 2.4	The mean carer satisfaction: information giving in the intervention groups was 0.1 higher (0.26 lower to 0.46 higher)
Carer satisfaction: availability of care	112 (1 study)	⊕⊕⊖⊖ LOW[a,c] due to risk of bias, imprecision	-	The mean carer satisfaction: availability of care in the control group was 1.9	The mean carer satisfaction: availability of care in the intervention groups was 0.1 higher (0.19 lower to 0.39 higher)
Carer satisfaction: physical patient care	110 (1 study)	⊕⊕⊖⊖ LOW[a,c] due to risk of bias, imprecision	-	The mean carer satisfaction: physical patient care in the control group was 2.2	The mean carer satisfaction: physical patient care in the intervention groups was 0.1 lower (0.4 lower to 0.2 higher)

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Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with usual care	Risk difference with MPT (Palliative care team) versus usual care (telephone palliative care team) (95% CI)
Carer satisfaction: psychosocial care	101 (1 study)	⨁⨁⊖⊖ LOW[a,c] due to risk of bias, imprecision	-	The mean carer satisfaction: psychosocial care in the control group was 2.3	The mean carer satisfaction: psychosocial care in the intervention groups was 0 higher (0.35 lower to 0.35 higher)
Days at home	109 (1 study)	⨁⊖⊖⊖ VERY LOW[a,c] due to risk of bias, indirectness	-	The mean days at home in the control group was 13.2	The mean days at home in the intervention groups was 2.7 lower (5.95 lower to 0.55 higher)

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 or 2 increments because the majority of the evidence had indirect outcomes
[c] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 8: Clinical evidence summary: Multiprofessional team (interdisciplinary team) versus MPT (skilled nurses team)

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with MPT (skilled nurses team)	Risk difference with MPT (interdisciplinary team) (95% CI)
Length of survival (mortality at 6 months)	171 (1 study)	⨁⨁⊖⊖ LOW[a,b] due to risk of bias, indirectness	RR 1.02 (0.87 to 1.19)	777 per 1000	16 more per 1000 (from 101 fewer to 148 more)

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Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with MPT (skilled nurses team)	Risk difference with MPT (interdisciplinary team) (95% CI)
Length of survival	171 (1 study)	⊕⊕⊕⊖ [a] due to risk of bias		The mean length of survival in the control groups was 83.1	The mean length of survival in the intervention groups was 6.9 lower (27.17 lower to 13.37 higher)
Length of survival (survival of people who died)	134 (1 study)	⊕⊕⊕⊖ [a] due to risk of bias		The mean length of survival (survival of people who died) in the control groups was 54.5	The mean length of survival (survival of people who died) in the intervention groups was 6.5 lower (21.94 lower to 8.94 higher)
Length of stay (VA services - emergency room visits)	171 (1 study)	⊕⊕⊖⊖ LOW[a] due to risk of bias		The mean length of stay (VA services - emergency room visits) in the control groups was 0.72	The mean length of stay (VA services - emergency room visits) in the intervention groups was 0.15 lower (0.41 lower to 0.11 higher)
Length of stay (VA services - extended care days)	171 (1 study)	⊕⊕⊖⊖ LOW[a] due to risk of bias		The mean length of stay (VA services - extended care days) in the control groups was 0	The mean length of stay (VA services - extended care days) in the intervention groups was 0.38 higher (0.4 lower to 1.16 higher)
Length of stay (VA services - general bed days)	171 (1 study)	⊕⊖⊖⊖ VERY LOW[a,c] due to risk of bias, imprecision		The mean length of stay (VA services - general bed days) in the control groups was 12.06	The mean length of stay (VA services - general bed days) in the intervention groups was 6.43 lower (10.29 to 2.57 lower)
Length of stay (VA services - intensive care hospital days)	171 (1 study)	⊕⊕⊖⊖ LOW[a] due to risk of bias		The mean length of stay (VA services - intensive care hospital days) in the control groups was 0.45	The mean length of stay (VA services - intensive care hospital days) in the intervention groups was 0.32 lower (1.15 lower to 0.51 higher)
Length of stay (VA services - intermediate bed days)	171 (1 study)	⊕⊕⊖⊖ LOW[a] due to risk of bias		The mean length of stay (VA services - intermediate bed days) in the control groups was 2.52	The mean length of stay (VA services - intermediate bed days) in the intervention groups was 1.48 higher (0.9 lower to 3.86 higher)

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Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with MPT (skilled nurses team)	Risk difference with MPT (interdisciplinary team) (95% CI)
Length of stay (VA services - outpatient clinic visits)	171 (1 study)	⊕⊖⊖⊖ VERY LOW[a,c] due to risk of bias, imprecision		The mean length of stay (VA services - outpatient clinic visits) in the control groups was 2.59	The mean length of stay (VA services - outpatient clinic visits) in the intervention groups was 1.86 lower (3.22 to 0.5 lower)
Length of stay (VA services - rehabilitation days)	171 (1 study)	⊕⊕⊖⊖ LOW[a] due to risk of bias		The mean length of stay (VA services - rehabilitation days) in the control groups was 0.14	The mean length of stay (VA services - rehabilitation days) in the intervention groups was 1.86 lower (3.22 to 0.5 lower)
Length of stay (VA services - total days)	171 (1 study)	⊕⊖⊖⊖ VERY LOW[a,c] due to risk of bias, imprecision		The mean length of stay (VA services - total days) in the control groups was 15.86	The mean length of stay (VA services - total days) in the intervention groups was 5.92 lower (11.03 to 0.81 lower)

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment because the majority of the evidence had indirect outcomes (not a measure of length of survival)
[c] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 9: Clinical evidence summary: Multiprofessional team (cancer palliative care team) versus usual care

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (cancer palliative care team) (95% CI)

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (cancer palliative care team) (95% CI)
Use of community services (patients referred to hospital, nursing home or hospice)	334 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b,c] due to risk of bias, indirectness, imprecision	RR 0.87 (0.51 to 1.47)	160 per 1000	21 fewer per 1000 (from 78 fewer to 75 more)

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment because the majority of the evidence had indirect outcomes (includes other hospital)
[c] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 10: Clinical evidence summary: Multiprofessional team (palliative medicine unit team) versus usual care

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (palliative medicine unit team) (95% CI)
Preferred and actual place of death (death at home)	395 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b,c] due to risk of bias, indirectness, imprecision	RR 1.67 (1.09 to 2.55)	148 per 1000	99 more per 1000 (from 13 more to 229 more)
Preferred and actual place of death (death at a nursing home)	395 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b,c] due to risk of bias,	RR 0.42 (0.25 to 0.71)	205 per 1000	119 fewer per 1000 (from 59 fewer to 154 fewer)

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Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (palliative medicine unit team) (95% CI)
		indirectness, imprecision			
Preferred and actual place of death (death in the hospital)	395 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b] due to risk of bias, indirectness	RR 1.03 (0.89 to 1.19)	648 per 1000	19 more per 1000 (from 71 fewer to 123 more)
Hospitalisation	395 (1 study)	⊕⊕⊖⊖ LOW[a] due to risk of bias	RR 0.96 (0.88 to 1.04)	869 per 1000	35 fewer per 1000 (from 104 fewer to 35 more)
Use of community services (patients admitted to nursing home) last month before death	395 (1 study)	⊕⊖⊖⊖ VERY LOW[a,c] due to risk of bias, imprecision	RR 0.54 (0.35 to 0.83)	239 per 1000	110 fewer per 1000 (from 41 fewer to 155 fewer)
Length of stay (number of days under observation at nursing home) last month before death	395 (1 study)	⊕⊕⊖⊖ LOW[a] due to risk of bias		The mean length of stay (number of days under observation at nursing home) last month before death - MPT (palliative medicine unit team) versus usual care in the control groups was 14.6	The mean length of stay (number of days under observation at nursing home) last month before death - MPT (palliative medicine unit team) versus usual care in the intervention groups was7.4 lower (12.77 to 2.03 lower)
Length of stay (n of days under observation in hospital) last month before death	395 (1 study)	⊕⊕⊖⊖ LOW[a]		The mean length of stay (number of days under observation in hospital) last month before death -	The mean length of stay (number of days under observation in hospital) last month before death -

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Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (palliative medicine unit team) (95% CI)
		due to risk of bias		MPT (palliative medicine unit team) versus usual care in the control groups was 45.3	MPT (palliative medicine unit team) versus usual care in the intervention groups was 0.2 higher (6.57 lower to 6.97 higher)
Length of stay (n of inpatients days at nursing home) last month before death	395 (1 study)	⨁⨁⨀⨀ LOW[a] due to risk of bias		The mean length of stay (number of inpatients days at nursing home) last month before death - MPT (palliative medicine unit team) versus usual care in the control groups was 4.3	The mean length of stay (number of inpatients days at nursing home) last month before death - MPT (palliative medicine unit team) versus usual care in the intervention groups was 2.1 lower (3.76 to 0.44 lower)
Length of stay (n of inpatients days at hospital) last month before death	395 (1 study)	⨁⨁⨀⨀ LOW[a] due to risk of bias		The mean length of stay (number of inpatients days at hospital) last month before death - MPT (palliative medicine unit team) versus usual care in the control groups was 12.4	The mean length of stay (number of inpatients days at hospital) last month before death - MPT (palliative medicine unit team) versus usual care in the intervention groups was 0.3 lower (2.22 lower to 1.62 higher)

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment because the majority of the evidence had indirect outcomes
[c] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 11: Clinical evidence summary: Multiprofessional Team (palliative care case management) versus usual care

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Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (palliative care case management) (95% CI)
Quality of life (EORTC QLQ-C30 - Physical) European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Scale from: 0 to 100.	44 (1 study) 2 years	⨁⨁⨀⨀ LOW[a,b] due to risk of bias, imprecision		The mean change in quality of life (EORTC QlQ-c30 - physical) in the control groups was 1.81	The mean quality of life (EORTC QLQ-c30 - physical) in the intervention groups was 4.24 higher (5.16 lower to 13.64 higher)
Quality of life (EORTC QLQ-C30 - Role) Scale from: 0 to 100.	44 (1 study) 2 years	⨁⨁⨀⨀ LOW[a,b] due to risk of bias, imprecision		The mean change in quality of life (EORTC QLQ-c30 - role) in the control groups was 3.03	The mean quality of life (EORTC QLQ-c30 - role) in the intervention groups was 15.87 higher (5.39 to 26.35 higher)
Quality of life (EORTC QLQ-C30 - Emotional) Scale from: 0 to 100.	44 (1 study) 2 years	⨁⨁⨀⨀ LOW[a,b] due to risk of bias, imprecision		The mean change in quality of life (EORTC QLQ-c30 - emotional) in the control groups was 12.1	The mean quality of life (EORTC QLQ-c30 - emotional) in the intervention groups was 21.5 higher (9.04 to 33.96 higher)
Quality of life (EORTC QLQ-C30 - Cognitive) Scale from: 0 to 100.	44 (1 study) 2 years	⨁⨁⨀⨀ LOW[a,b] due to risk of bias, imprecision		The mean change in quality of life (EORTC QLQ-c30 - cognitive) in the control groups was 13.6	The mean quality of life (EORTC QLQ-c30 - cognitive) in the intervention groups was 13.6 higher (2.34 lower to 29.54 higher)
Quality of life (EORTC QLQ-C30 - Social) Scale from: 0 to 100.	44 (1 study) 2 years	⨁⨁⨀⨀ LOW[a,b] due to risk of bias, imprecision		The mean change in quality of life (EORTC QLQ-c30 - social) in the control groups was 0.75	The mean quality of life (EORTC QLQ-c30 - social) in the intervention groups was 22.65 higher (11.27 to 34.03 higher)
Quality of life (EORTC QLQ-C30 - Global) Scale from: 0 to 100.	44 (1 study) 2 years	⨁⨀⨀⨀ VERY LOW[a,b] due to risk of bias, imprecision		The mean change in quality of life (EORTC QLQ-c30 - social) in the control groups was 9.09	The mean quality of life (EORTC QLQ-c30 - global) in the intervention groups was 21.21 higher (11.25 to 31.17 higher)

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Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Usual care	Risk difference with MPT (palliative care case management) (95% CI)
Patient satisfaction Scale from: 1 to 5.	44 (1 study) 2 years	⨁⨁⊖⊖ LOW[a,b] due to risk of bias, imprecision		The mean patient satisfaction in the control groups was 3.27	The mean patient satisfaction in the intervention groups was 1.12 higher (0.04 to 2.2 higher)
Family satisfaction Scale from: 1 to 5.	44 (1 study) 2 years	⨁⨁⊖⊖ LOW[a,b] due to risk of bias, imprecision		The mean family satisfaction in the control groups was 3.07	The mean family satisfaction in the intervention groups was 0.99 higher (0.03 to 1.95 higher)

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 12: Multiprofessional Team (hospice MPT and case management) versus usual care

Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Control	Risk difference with MPT (hospice MPT and case management) versus usual care (95% CI)
Hospitalisation at 6 months prior to death	914 (1 study)	⨁⊖⊖⊖ VERY LOW[a,b] due to risk of bias, imprecision	OR 0.26 (0.14 to 0.48)	956 per 1000	106 fewer per 1000 (from 43 fewer to 203 fewer)
Hospitalisation at 3 months prior to death	914 (1 study)	⨁⊖⊖⊖ VERY LOW[a] due to risk of bias	OR 0.23 (0.15 to 0.35)	906 per 1000	218 fewer per 1000 (from 135 fewer to 316 fewer)
Hospitalisation at 1 month prior to death	914 (1 study)	⨁⊖⊖⊖ VERY LOW[a] due to risk of bias	OR 0.19 (0.14 to 0.26)	720 per 1000	392 fewer per 1000 (from 319 fewer to 455 fewer)

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Outcomes	No of Participants (studies) Follow up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Control	Risk difference with MPT (hospice MPT and case management) versus usual care (95% CI)
Number of visits to A&E at 6 months prior to death	914 (1 study)	⊕⊖⊖⊖ VERY LOW[a] due to risk of bias	OR 0.26 (0.16 to 0.42)	936 per 1000	144 fewer per 1000 (from 76 fewer to 236 fewer)
Number of visits to A&E at 3 months prior to death	914 (1 study)	⊕⊖⊖⊖ VERY LOW[a,b] due to risk of bias, imprecision	OR 0.23 (0.16 to 0.33)	870 per 1000	264 fewer per 1000 (from 182 fewer to 353 fewer)
Number of visits to A&E at 1 month prior to death	914 (1 study)	⊕⊖⊖⊖ VERY LOW[a] due to risk of bias	OR 0.18 (0.13 to 0.25)	659 per 1000	401 fewer per 1000 (from 333 fewer to 458 fewer)
Location of death: home	914 (1 study)	⊕⊖⊖⊖ VERY LOW[a] due to risk of bias	RR 1.72 (1.52 to 1.95)	400 per 1000	288 more per 1000 (from 208 more to 380 more)
Location of death: inpatient hospice	914 (1 study)	⊕⊖⊖⊖ VERY LOW[a] due to risk of bias	RR 2.24 (1.74 to 2.89)	142 per 1000	176 more per 1000 (from 105 more to 268 more)
Location of death: hospital	914 (1 study)	⊕⊖⊖⊖ VERY LOW[a,c] due to risk of bias, indirectness	RR 0.33 (0.25 to 0.44)	427 per 1000	286 fewer per 1000 (from 239 fewer to 320 fewer)
Location of death: nursing home	914 (1 study)	⊕⊖⊖⊖ VERY LOW[a] due to risk of bias	RR 1.85 (0.38 to 9.1)	5 per 1000	4 more per 1000 (from 3 fewer to 41 more)

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs
[c] Downgraded by 1 or 2 increments because the majority of the evidence had indirect outcomes.

See Appendix F for full GRADE tables.

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1.5 Economic evidence

1.5.1 Included studies

Two health economic studies were identified with the relevant comparison and have been included in this review.[174] [189] These are summarised in the health economic evidence profile below (Table 13) and the health economic evidence tables in Appendix F.

1.5.2 Excluded studies

One economic study relating to this review question was identified but was excluded due to limited applicability.[137] This is listed in Appendix I, with reasons for exclusion given.

See also the health economic study selection flow chart in Appendix C.

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1.5.3 Summary of studies included in the economic evidence review

Table 13: Health economic evidence profile: Multiprofessional team care versus standard care

Study	Applicability	Limitations	Other comments	Incremental cost per patient	Incremental effects per patient	Cost-effectiveness	Uncertainty
Sahlen 2016 [189] (Sweden) Perspective: Swedish provider	Partially applicable[a]	Potentially serious limitations[b]	Economic Analysis: Within-trial analysis Intervention: person centred integrated heart failure and palliative home care. Follow-up: 6 months.	Saves £279[c]	0.015 QALYs[d]	Dominant	A sensitivity analysis was performed using a standard cost model for Sweden that was developed by the HCM Healthcare Management in October 2011. When using these significantly higher costs (including costs of overheads, travel expenses) costs were still lower in the intervention group.
Ozcelik 2014 [174] (Turkey) Perspective: Turkish Healthcare system	Partially applicable[e]	Potentially serious limitations[f]	Economic Analysis: Cost-consequences analysis alongside a block RCT where patients were divided randomly according to age, sex and education level into the intervention or the control group. Intervention: multiprofessional approach Comparator: oncologist led standard care.	Saves £8,614[g]	EORTC QLQ-C30 Quality of life questionnaire (0-100): -39.39(h) Patient satisfaction (0-5): 0.88 Family satisfaction (0-5): 0.99	NA	NA

Abbreviations: ICER: incremental cost-effectiveness ratio; QALY: quality-adjusted life years;

(a) Study conducted in Sweden. The study is not looking at the best composition of a multiprofessional team but it is comparing having an MPT compared to not having an MPT. The intervention has more elements to it than just the implementation of a multiprofessional team and therefore the positive outcomes cannot be attributed to the MPT care alone. It is not possible to disaggregate the effect that implementing the MPT had on outcomes. Offering structured palliative care at home with easy access to care was also a large part of the intervention that was not available to the control group.
(b) The study has a small sample size (total of 72 participants).
(c) 2012 Euros converted using 2012 purchasing power parities; cost components included in the analysis were: Costs of primary health care and hospital based care. Costs were calculated by multiplying the allocated time given for each service by the average salaries of the staff providing the services.
(d) QALYs were estimated using EQ-5D data
(e) Study conducted in Turkey. The study is not looking at the best composition of a multiprofessional team it is comparing having an MPT compared to not having an MPT. The intervention had more elements to it than just the implementation of a multiprofessional team it included symptom assessment measurement in the clinic using the Edmonton Symptom Assessment System (ESAS) and they used the palliative care protocol in advanced care planning. It is therefore difficult to attribute the positive outcomes and lower costs to the fact that the intervention group received care provided by an MPT.
(f) The study has a small sample size (total of 44 participants).
(g) 2012 US dollars converted using 2012 purchasing power parities; cost components included in the analysis were: direct health expenditure which consisted of all expenses incurred while in hospital. For example, medicines used from the start of the patient's stay in hospital, medical equipment, laboratory and diagnosis tests, consultations, professional care and hospital stay expenses (including those of companions).
(h) For this measurement the lower the score the better the quality of life therefore a negative incremental value represents an improvement in QoL.

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1.5.4 Unit costs

The table below reports the unit cost per hour of work for the members of staff listed as being part of the multiprofessional teams in the studies that have been identified in the clinical and economic reviews of this question.

Table 14: Cost of MPT based on composition in included studies

Study	Health care professional in MPT	Cost per working hour
Brumley (2003, 2007)[34,36]	Nurse	£22-£122 (Band 2 to Band 9)
	Physician	£106*
	Social worker	£55
Hanks (2002) [86]	Clinical academic consultant	£106
	Specialist registrar	£40
	Clinical Nurse Specialist	£22-£122 (Band 2 to Band 9)
Hughes (1992)[103]	Nurse	£22-£122 (Band 2 to Band 9)
	Social worker	£55
	Health technician	Not found
	Physical therapist	£23-£77** (Band 2 to Band 8b)
	Dietician	£23-£77 (Band 2 to Band 8b)
Jongen (2011)[112]	Nurse	£22-£122 (Band 2 to Band 9)
	Anaesthesiologist	£106*
	Neurologist	£106*
	Oncologist physician	£106*
Jordhoy (2000,2001)[114,113]	Physician	£106*
	Social worker	£55
	Nutritionist	Not found
	Physiotherapist	£23-£77 (Band 2 to Band 8b)
	Priest	Not found
	Palliative care nurse	£22-£122 (Band 2 to Band 9)
Ozcelik (2014)[174]	Social worker	£55
	Case manager nurse	£22-£122 (Band 2 to Band 9)
	Psychiatrist	£139
	Dietician	£23-£77 (Band 2 to Band 8a)
	Oncologist physician	£106*
	Physiotherapist	£23-£77 (Band 2 to Band 8b)
Gade (2008)[71]	Social worker	£55
	Chaplain	Not found
	Palliative care physician	£106*
Sahlen (2016)[189]	Palliative care nurse	£22-£122 (Band 2 to Band 9)
	Physiotherapist	£23-£77 (Band 2 to Band 8a)
	Cardiologist	£106*
	Occupational therapist	£23-£77 (Band 2 to Band 8b)
	Specialised nurse	£22-£122 (Band 2 to Band 9)
	Palliative care physician	£106*
Tan (2016) [217]	Physician	£106*

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Study	Health care professional in MPT	Cost per working hour
	Nurse	£22-£122 (Band 2 to Band 9)
	Medical social worker	£55

Source of costs: Curtis (2016)[49]
**cost of a consultant reported*
***cost of a physiotherapist reported*

1.6 Resource cost

Recommendations made based on this review (see section **Error! Reference source not found.**) are not expected to have a substantial impact on resources.

1.7 Evidence statements

1.7.1 Multiprofessional team versus usual care

Multiprofessional team (multiprofessional palliative care program) versus usual care

There was evidence of clinically important benefit in the number of people dying at home, number of hospital visits, number of visits to accident and emergency, use of community services (physicians visits, nursing care visits) (1 study, n=300, very low quality). Clinical benefit in favour of the control group was observed for the outcome of use of community services (total home health visits) (1 study, n=300, very low quality).

Multiprofessional team (in-home palliative care service) versus usual care

There was a clinically important difference in favour of the intervention group for hospitalisation, number of visits to accident and emergency and use of community services (people enrolled in hospice) (1 study, n=297, very low to moderate quality). Clinical benefit in favour of the control group was observed for length of survival (1 study, n=297, moderate quality).

Multiprofessional team (inpatient palliative care team) versus usual care

There was no clinically important difference between the groups with respect to the use of community services (people admitted to hospice), quality of life, and patient satisfaction (1 study, n=390-512, very low quality).

Multiprofessional team (cancer palliative care team) versus usual care

No clinically importance difference was observed between groups in the use of community services (patients referred to hospital, nursing home or hospice) (1 study, n=334, very low quality).

Multiprofessional team (palliative medicine unit team) versus usual care

For the outcome of preferred and actual place of death at home and at a nursing home there was a clinically important higher proportion of people in the intervention group compared to the control group (1 study, n=395, very low quality). There was no clinically importance difference between groups in the number of people dying in a hospital (1 study, n=395, very low quality). There was also no clinically important difference in hospitalisation between groups (1 study, n=395, low quality). A clinically important difference was observed between groups with a lower number of patients in the intervention group being admitted to a nursing home in the last month before death (1 study, n=395, very low quality). For the outcome of length of stay there was mixed evidence: there was a clinically important difference between groups with the intervention group having fewer days under observation at nursing home and fewer inpatients days at a nursing home in the last month before death. However, there was

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no clinically important difference in the days under observation at the hospital and inpatients days at the hospital in the last month before death (1 study, n=395, low quality).

Multiprofessional team (palliative care case management) versus usual care

There was evidence of a clinically important benefit for quality of life (as measured by EORTOC QLQ-30, all subdomains) in the intervention group (1 study, n=44, very low to low quality). There was also a clinically important benefit for patient satisfaction in the intervention group, but no clinically important difference between groups in family satisfaction (1 study, n=44, low quality).

Multiprofessional Team (hospice MPT and case management) versus usual care

There was evidence of a clinically important benefit for reducing hospitalisation (at 6 months, 3 months and 1 month prior to death), reducing number of visits to A&E (at 6 months, 3 months and 1 month prior to death) and location of death (at home, inpatient hospice and hospital) in the intervention group (1 study, n=914, very low quality), but not for nursing home for location of death (1 study, n=914, very low quality).

1.7.2 Multiprofessional team versus other team

Multiprofessional team (interdisciplinary team) versus Multiprofessional Team (skilled nurses team)

No clinically important difference was observed between groups in terms of length of survival (mortality at 6 months, survival of people who died during study) (1 study; n=171, low to moderate quality). There was mixed evidence in terms of length of stay, with some evidence of clinically important benefit of the intervention for general bed days, intensive care hospital days, intermediate bed days, outpatient clinic visits, rehabilitation days and total days, and no difference between groups in the other outcomes (1 study, n=171, very low to low quality).

Multiprofessional Team (palliative care team) versus telephone palliative care team

No clinically important difference was observed between groups in terms of length of stay in hospital, days at home, readmissions, GP and District Nurse visits, patient satisfaction and carer satisfaction (1 study; n=261, moderate to very low quality). There was a clinically important benefit for HRQoL (1 study, n=261, very low quality).

1.7.3 Health economic evidence statements

One cost utility analysis and one cost consequence analysis both found that a multiprofessional team approach to care was dominant (less costly and more effective) compared to usual care, at providing end of life care services to people expected to die within the next twelve months. Both analyses were assessed as partially applicable with very serious limitations.

1.8 The committee's discussion of the evidence

1.8.1 Interpreting the evidence

1.8.1.1 The outcomes that matter most

The committee identified quality of life, and preferred place of care and death as the critical outcomes for measuring the impact of a multiprofessional team. The following outcomes were identified as important: length of stay, length of survival, hospitalisation, number of hospital visits, number of visits to accident and emergency, number of unscheduled admissions, use of community services, avoidable or inappropriate admissions to ICU,

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inappropriate attempts at cardiopulmonary resuscitation, staff satisfaction, and patient or carer reported outcomes.

See tables 7 and 8 in the Methods chapter for a detailed explanation of why the committee selected these outcomes.

Five studies reported quality of life of people in the last year of life. Four studies reported actual place of death, which was a surrogate outcome for actual place of death compared to preferred place of death. None of the studies reported actual and preferred place of care.

For the important outcomes, five studies reported the use of community services. One study reported number of GP and District Nurse visits. One study reported the number of hospital visits. Three studies reported the number of visits to accident and emergency. Three studies reported the outcome of hospitalisation but none reported whether these were unscheduled or avoidable. One study reported readmission. Four studies reported length of stay. One study reported days at home. Five studies reported the outcome length of survival. Four studies reported satisfaction of patient or family. No studies reported number of unscheduled admissions, inappropriate or avoidable admissions to ICU, inappropriate resuscitation or staff satisfaction.

1.8.1.2 The quality of the evidence

The quality of the evidence ranged from very low to moderate. This was due to study design, selection and performance bias, resulting in a high risk of bias rating and imprecision. Indirectness in some outcomes (actual and final place of death; hospital admissions) further contributed to the final GRADE rating.

For two of the intervention trials, data were only reported as median and interquartile range for pain, function and health-related quality of life and therefore conclusions on the efficacy based on these outcomes could not be made with confidence.

The Committee was unable to pre-specify confounders that may affect the results of the studies. Some of the studies performed multivariate analysis but only included a limited number of potential confounders.

A number of the studies did not describe the comparator and it was unclear how the intervention differed in the other group .This was often described as usual care but without any detail of what care was given.

The Committee noted the limited applicability of the evidence from the VA hospital in the USA. The population included in the study was mostly composed of males, who were younger than expected for an end of life of care study and who were mostly unemployed

The Committee noted that all the studies were conducted outside of the UK. Most of the studies were conducted in the US and the Committee commented on the differences in the care systems between the two countries, particularly on the difference in the concept of hospice care. In the US this does not always indicate a physical environment but an overall palliative and end of life care approach.

1.8.1.3 Benefits and harms

The Committee commented that the best type of study to answer this review question should have compared different multiprofessional teams (MPTs) with individual team members being added to a core team. No such study was found so the Committee examined the evidence from studies comparing MPT versus usual care, or MPT versus a different team composition.

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The Committee acknowledged there was a limited evidence base indicating a benefit of additional team members to a core care team in reducing the use of community services, hospitalisation, hospital death, length of stay and visits to accident and emergency. There was some evidence of an increase in the number of people dying at home and in hospices and an increase in health-related quality of life. However, multiple service components were delivered as interventions alongside the availability of the core MPT in the majority of studies, and it was not possible to conclude where the benefit was from. The benefit could have been from individual components of the additional services or as a combination of the services delivered together.

Furthermore, the Committee agreed there was not enough evidence to support recommending one composition of a MPT over another. However, the Committee agreed to recommend that a person in their last year of life should have access to a MPT that has the skills to meet the person's identified needs. The Committee discussed that the population of people in the last year of life is heterogeneous and their needs so diverse that it is impossible to list the key professions that should be in a team, In order to address this the Committee listed the needs that people may have.

1.8.2 Cost effectiveness and resource use

An MPT approach to a patient's end of life care means that their care is provided by a number of different health care professionals who work together to ensure effective and smooth coordination of the different services involved in the patient's care. This might involve MPT meetings and/or sharing information through regular communication between team members. The impact that working in an MPT could have on key outcomes of costs and resource use depends on whether the MPT care provides patients with access or better access to members of staff that they wouldn't otherwise have. If, for example, a patient receiving MPT care receives services from a dietician that they wouldn't have access to in a standard care model then the MPT care could increase the level of resource use per patient. However, these additional costs could be offset by the MPT approach reducing duplications of tasks through better and more efficient sharing of information. Services provided in an MPT model of care could also help avoid unnecessary futures hospital admissions, for example, a patient gaining access to an occupational therapist could ensure they receive the appropriate level of support at home to allow them to safely be there, avoiding them being admitted to hospital in the future. The effect of resource use and costs also depends on the composition of the MPT; which health care professionals make up the MPT. Different members of staff cost the NHS different amounts (see the unit costs section of section 1.5), therefore the composition and the level of involvement of each member will influence the level of resource use required on average per patient. As there is currently no evidence on the effectiveness of different compositions of MPT care for end of life services, it was not possible to determine whether any MPT compositions were cost-effective.

No economic studies were found that assessed different compositions of MPTs. Two studies were identified that reported the costs and health outcomes of patients receiving care provided by an MPT versus care not provided by an MPT. A Swedish cost utility study, found that care provided by an MPT dominated (was less costly and more effective) standard care, as the costs of primary health care and hospital based care for people in the MPT group was lower than for the people in the standard care group, whilst the average number of QALYs gained in the MPT group was higher. Unfortunately the Committee was not able to identify the drivers of the outcomes reported in the study as the intervention included a number of different elements to it, such as offering structured palliative care at home with easy access to care. The QALYs gained could therefore not be attributed to the care being provided by an MPT. Another study also reported lower costs and some improved outcomes from having MPT provided end of life care. However, the intervention in the study also included other elements such as using a palliative care protocol in advanced care planning therefore again the positive outcomes could not be attributed to the fact that the care was provided by an MPT.

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The Committee agreed that the fact that costs in the MPT groups were lower in both studies was at least some indication that working in MPTs could be cost saving. However, the Committee agreed that a significant limitation of the evidence was that both studies were not conducted in the UK, and therefore the costs of the different team members involved in the MPTs and the direct medical costs of the patients would differ to that of a UK setting.

Due to the lack of evidence the Committee was not able to recommend a specific MPT composition, but they agreed that the composition should help ensure that the identified needs of the person in the last year of life are met as this should be fundamental to good end-of-life care. For example, if a person is identified as requiring some emotional support then a healthcare professional who can deliver this should be a member of the MPT for the duration that their services are required.

1.8.3 Other factors the committee took into account

The Committee commented that they knew of new MPT formats currently being developed across the NHS. However, the Committee was not aware of any published evidence about on their specific components. The Committee noted that there are specialist MPTs and generalist MPTs (for example, with a strong district nurses element) in current practice. The composition of a specialist multiprofessional palliative care team is generally more standard than composition of a generalist MPT.

ISBN 978-1-4731-3560-4

References

1. Addington-Hall JM, MacDonald LD, Anderson HR, Chamberlain J, Freeling P, Bland JM et al. Randomised controlled trial of effects of coordinating care for terminally ill cancer patients. BMJ. 1992; 305(6865):1317-1322

2. Ahlner-Elmqvist M, Jordhoy MS, Jannert M, Fayers P, Kaasa S. Place of death: hospital-based advanced home care versus conventional care. A prospective study in palliative cancer care. Palliative Medicine. 2004; 18(7):585-593

3. Ahmed A. Quality and outcomes of heart failure care in older adults: Role of multidisciplinary disease-management programs. Journal of the American Geriatrics Society. 2002; 50(9):1590-1593

4. Aiken LS, Butner J, Lockhart CA, Volk-Craft BE, Hamilton G, Williams FG. Outcome evaluation of a randomized trial of the PhoenixCare intervention: Program of case management and coordinated care for the seriously chronically ill. Journal of Palliative Medicine. 2006; 9(1):111-126

5. Alfaya Gongora Mdel M, Bueno Pernias MJ, Hueso Montoro C, Guardia Mancilla P, Montoya Juarez R, Garcia Caro MP. Palliative care team visits. Qualitative study through participant observation. Colombia Medica. 2016; 47(1):38-44

6. Allen KR, Hazelett SE, Radwany S, Ertle D, Fosnight SM, Moore PS. The Promoting Effective Advance Care for Elders (PEACE) randomized pilot study: Theoretical framework and study design. Population Health Management. 2012; 15(2):71-77

7. Almack K, Cox K, Moghaddam N. After you : conversations between patients and healthcare professionals in planning for end of life care. BMC Palliative Care. 2012; 11:15

8. Alsirafy SA, Abou-Alia AM, Ghanem HM. Palliative care consultation versus palliative care unit: which is associated with shorter terminal hospitalization length of stay among patients with cancer? American Journal of Hospice & Palliative Medicine. 2015; 32(3):275-279

9. Anonymous. The role of the social worker in interdisciplinary geriatric teams. Social Work Interest Group of the Hartford Geriatric Interdisciplinary Team Training (GITT) Program. Continuum (Society for Social Work Administrators in Health Care). 1999; 19(1):4-6

10. Anonymous. CMs coordinate care for patient at end of life. Hospital Case Management. 2005; 13(5):75-77

11. Anonymous. Care coordinators work 24/7 to increase efficiency, decrease length of stay. Hospital case management : the monthly update on hospital-based care planning and critical paths. 2009; 17(12):183-184

12. Arriola KRJ, Braithwaite RL. Assessing the impact of community case management on change in health status among HIV-infected ex-offenders. Journal of Multicultural Nursing & Health (JMCNH). 2003; 9(3):24-29

13. Badger F, Clifford CHATK. An evaluation of the implementation of a programme to improve end-of-life care in nursing homes. Palliative Medicine. 2009; 23(6):502-511

14. Bainbridge D, Brazil K, Krueger P, Ploeg J, Taniguchi A, Darnay J. Measuring horizontal integration among health care providers in the community: An examination of a collaborative process within a palliative care network. Journal of Interprofessional Care. 2015; 29(3):245-252

ISBN 978-1-4731-3560-4

15. Bainbridge D, Brazil K, Ploeg J, Krueger P, Taniguchi A. Measuring healthcare integration: Operationalization of a framework for a systems evaluation of palliative care structures, processes, and outcomes. Palliative Medicine. 2016; 30(6):567-579

16. Bajwah S, Ross JR, Wells AU, Mohammed K, Oyebode C, Birring SS et al. Palliative care for patients with advanced fibrotic lung disease: A randomised controlled phase II and feasibility trial of a community case conference intervention. Thorax. 2015; 70(9):830-839

17. Baker A, Leak P, Ritchie LD, Lee AJ, Fielding S. Anticipatory care planning and integration : A primary care pilot study aimed at reducing unplanned hospitalisation. British Journal of General Practice. 2012; 62(595):e113-e120

18. Bakitas M, Lyons KD, Hegel MT, Balan S, Barnett KN, Brokaw FC et al. The project ENABLE II randomized controlled trial to improve palliative care for rural patients with advanced cancer: Baseline findings, methodological challenges, and solutions. Palliative and Supportive Care. 2009; 7(1):75-86

19. Becker CL, Arnold RM, Park SY, Rosenzweig M, Smith TJ, White DB et al. A cluster randomized trial of a primary palliative care intervention (CONNECT) for patients with advanced cancer: Protocol and key design considerations. Contemporary Clinical Trials. 2017; 54:98-104

20. Becze E. New therapies for advanced prostate cancer: The nurse as part of the multidisciplinary team. ONS connect. 2007; 22(Suppl 8):47-48

21. Bekelman DB, Plomondon ME, Carey EP, Sullivan MD, Nelson KM, Hattler B et al. Primary results of the patient-centered disease management (PCDM) for heart failure study: A randomized clinical trial. JAMA Internal Medicine. 2015; 175(5):725-732

22. Bekelman JE, Halpern SD, Blankart CR, Bynum JP, Cohen J, Fowler R et al. Comparison of site of death, health care utilization, and hospital expenditures for patients dying with cancer in 7 developed countries. JAMA. 2016; 315(3):272-283

23. Bergman J, Ballon-Landa E, Lorenz KA, Saucedo J, Saigal CS, Bennett CJ et al. Community-partnered collaboration to build an integrated palliative care clinic. American Journal of Hospice & Palliative Medicine. 2016; 33(2):164-170 167p

24. Bernacki R, Hutchings M, Vick J. Development of the Serious Illness Care Program : a randomised controlled trial of a palliative care communication intervention. BMJ Open. 2015; 5(10):e009032

25. Biernacki PJ, Champagne MT, Peng S, Maizel DR, Turner BS. Transformation of care: Integrating the registered nurse care coordinator into the patient-centered medical home. Population Health Management. 2015; 18(5):330-336

26. Bliss J, While A. Decision-making in palliative and continuing care in the community: an analysis of the published literature with reference to the context of UK care provision. International Journal of Nursing Studies. 2003; 40(8):881-888

27. Boyd K, Murray SA. Recognising and managing key transitions in end of life care. BMJ. 2010; 341:c4863

28. Boyd KJ. The role of specialist home care teams: views of general practitioners in south London. Palliative Medicine. 1995; 9(2):138-144

29. Boyd KJ, Worth A, Kendall M, Pratt R, Hockley J, Denvir M et al. Making sure services deliver for people with advanced heart failure: a longitudinal qualitative study of patients, family carers, and health professionals. Palliative Medicine. 2009; 23(8):767-776

ISBN 978-1-4731-3560-4

30. Brajtman S. Terminal restlessness: perspectives of an interdisciplinary palliative care team. International Journal of Palliative Nursing. 2005; 11(4):170, 172-178

31. Branch LG, Coulam RF, Zimmerman YA. The PACE evaluation: Initial findings. Gerontologist. 1995; 35(3):349-359

32. Brandt K. The physician-hospice partnership: Expanding opportunities to improve end-of-life care. Journal of Medical Practice Management. 2001; 16(5):232-236

33. Brogaard T, Jensen AB, Sokolowski I, Olesen F, Neergaard MAr. Who is the key worker in palliative home care? Views of patients, relatives and primary care professionals. Scandinavian Journal of Primary Health Care. 2011; 29(3):150-156

34. Brumley R, Enguidanos S, Jamison P, Seitz R, Morgenstern N, Saito S et al. Increased satisfaction with care and lower costs: results of a randomized trial of in-home palliative care. Journal of the American Geriatrics Society. 2007; 55(7):993-1000

35. Brumley RD. Future of end-of-life care: the managed care organization perspective. Journal of Palliative Medicine. 2002; 5(2):263-270

36. Brumley RD, Enguidanos S, Cherin DA. Effectiveness of a home-based palliative care program for end-of-life. Journal of Palliative Medicine. 2003; 6(5):715-724

37. Callahan MB. Using quality of life measurement to enhance interdisciplinary collaboration. Advances in Renal Replacement Therapy. 2001; 8(2):148-151

38. Candy B, Holman A, Leurent B, Davis S, Jones L. Hospice care delivered at home, in nursing homes and in dedicated hospice facilities: A systematic review of quantitative and qualitative evidence. International Journal of Nursing Studies. 2011; 48(1):121-133

39. Carduff E, Finucane A, Kendall M. Understanding the barriers to identifying carers of people with advanced illness in primary care: Triangulating three data sources. BMC Family Practice. 2014; 14:48

40. Casarett D, Johnson M, Smith D, Richardson D. The optimal delivery of palliative care: a national comparison of the outcomes of consultation teams vs inpatient units. Archives of Internal Medicine. 2011; 171(7):649-655

41. Cheng SY, Dy S, Fang PH, Chen CY, Chiu TY. Evaluation of inpatient multidisciplinary palliative care unit on terminally ill cancer patients from providers' perspectives: A propensity score analysis. Japanese Journal of Clinical Oncology. 2013; 43(2):161-169

42. Cheung W, Aggarwal G, Fugaccia E, Thanakrishnan G, Milliss D, Anderson R et al. Palliative care teams in the intensive care unit: a randomised, controlled, feasibility study. Critical Care and Resuscitation. 2010; 12(1):28-35

43. Coldewey LJ. Parish nursing: A system approach. Suggestions for planning and implementing parish partnerships. Health Progress. 1993; 74(9):54-57, 66

44. Connolly J, Milligan S, Stevens E. Advance care planning in a community setting. Nursing Standard. 2015; 29(23):43-51

45. Corr B, Frost E, Traynor BJ, Hardiman O. Service provision for patients with ALS/MND: A cost-effective multidisciplinary approach. Journal of the Neurological Sciences. 1998; 160 (Suppl 1):S141-145

ISBN 978-1-4731-3560-4

46. Costantini M, Higginson IJ, Boni L, Orengo MA, Garrone E, Henriquet F et al. Effect of a palliative home care team on hospital admissions among patients with advanced cancer. Palliative Medicine. 2003; 17(4):315-321

47. Crawford GB. Continuity of care: Palliative care in the community. Cancer Forum. 2002; 26(1):11-13

48. Crawford GB, Price SD. Team working: Palliative care as a model of interdisciplinary practice. Medical Journal of Australia. 2003; 179(Suppl 6):S32-S34

49. Curtis L, Burns A. Unit costs of health & social care 2016. Canterbury. University of Kent Personal Social Services Research Unit, 2016.

50. Daly BJ. Organizational change and delivery of multidisciplinary palliative care. Respiratory Care. 2000; 45(12):1501-1510; discussion 1510-1502

51. Daly D, Matzel SC. Building a transdisciplinary approach to palliative care in an acute care setting. Omega. 2013; 67(1-2):43-51

52. Daniels L, Linnane J. Developing a framework for primary palliative care services. British Journal of Community Nursing. 2001; 6(11):592-600

53. Davison G, Shelby-James TM. Palliative care case conferencing involving general practice: An argument for a facilitated standard process. Australian Health Review. 2012; 36(1):115-119

54. Deja K. Social workers breaking bad news: The essential role of an interdisciplinary team when communicating prognosis. Journal of Palliative Medicine. 2006; 9(3):807-809

55. Desmedt M, Michel H. Palliative home care: improving co-operation between the specialist team and the family doctor. Supportive Care in Cancer. 2002; 10(4):343-348

56. Detering K, Hancock A, Reade M. The impact of advance care planning on end of life care in elderly patients : randomised controlled trial. BMJ. 2010; 340(7751):c1345

57. Devlin M, McIlfatrick S. The role of the home-care worker in palliative and end-of-life care in the community setting: A literature review. International Journal of Palliative Nursing. 2009; 15(11):526-532

58. Downar J, Rodin D, Barua R, Lejnieks B, Gudimella R, McCredie V et al. Rapid response teams, do not resuscitate orders, and potential opportunities to improve end-of-life care: A multicentre retrospective study. Journal of Critical Care. 2013; 28(4):498-503

59. Dudgeon DJ, Knott C, Chapman C, Coulson K, Jeffery E, Preston S et al. Development, implementation, and process evaluation of a regional palliative care quality improvement project. Journal of Pain and Symptom Management. 2009; 38(4):483-495

60. Ellen Netting F, Williams FG. Geriatric case managers: Integration into physician practices. Care Management Journals. 1999; 1(1):3-9

61. Emanuel L, Barry M, Stoeckle J, Ettelson LM, Emanuel E. Advance directives for medical care a case for greater use. New England Journal of Medicine. 1991; 324(13):889-895

62. Enguidandos SM, Cherin DBR. Home-based palliative care study: site of dealth, and costs of medical care for patients with congestive heart failure, chronic obstructive

ISBN 978-1-4731-3560-4

pulmonary disease and cancer. Journal of Social Work in End-of-Life and Palliative Care. 2005; 1(3):37-56

63. Ennis L, Kinley J, Hockley J. The cost of providing end of life care for nursing care home residents: A retrospective cohort study. Health Services Management Research. 2015; 28(1-2):16-23

64. Fendler TJ, Swetz KM, Allen LA. Team-based palliative and end-of-life care for heart failure. Heart Failure Clinics. 2015; 11(3):479-498

65. Feuz C. The role of the keyworker in breaking down professional culture barriers to providing high-quality palliative care: A literature review. Journal of Radiotherapy in Practice. 2013; 13(4):465-472

66. Feuz C. Shared decision making in palliative cancer care: A literature review. Journal of Radiotherapy in Practice. 2014; 13(3):340-349

67. Finkelstein EA, Bilger M, Flynn TN, Malhotra C. Preferences for end-of-life care among community-dwelling older adults and patients with advanced cancer: A discrete choice experiment. Health Policy. 2015; 119(11):1482-1489

68. Forster AJ, Clark HD, Menard A, Dupuis N, Chernish R, Chandok N et al. Effect of a nurse team coordinator on outcomes for hospitalized medicine patients. American Journal of Medicine. 2005; 118(10):1148-1153

69. Friedman A, Howard J, Shaw EK, Cohen DJ, Shahidi L, Ferrante JM. Facilitators and barriers to care coordination in patient-centered medical homes (PCMHs) from coordinators' perspectives. Journal of the American Board of Family Medicine. 2016; 29(1):90-101

70. Frost MH, Arvizu RD, Jayakumar S, Schoonover A, Novotny P, Zahasky K. A multidisciplinary healthcare delivery model for women with breast cancer: Patient satisfaction and physical and psychosocial adjustment. Oncology Nursing Forum. 1999; 26(10):1673-1680

71. Gade G, Venohr I, Conner D, McGrady K, Beane J, Richardson RH et al. Impact of an inpatient palliative care team: A randomized control trial. Journal of Palliative Medicine. 2008; 11(2):180-190

72. Gaertner J, Frechen S, Sladek M, Ostgathe C, Voltz R. Palliative care consultation service and palliative care unit: Why do we need both? Oncologist. 2012; 17(3):428-435

73. Gaertner J, Siemens W, Meerpohl JJ, Antes G, Meffert C, Xander C et al. Effect of specialist palliative care services on quality of life in adults with advanced incurable illness in hospital, hospice, or community settings: systematic review and meta-analysis. BMJ. 2017; 357:j2925

74. Gage H, Holdsworth LM, Flannery C, Williams P, Butler C. Impact of a hospice rapid response service on preferred place of death, and costs. BMC Palliative Care. 2015; 14:75

75. Gardner-Nix JS, Brodie R, Tjan E, Wilton M, Zoberman L, Barnes F et al. Scarborough's Palliative 'At-home' Care Team (PACT): A model for a suburban physician palliative care team. Journal of Palliative Care. 1995; 11(3):43-49

76. Gardner JK, Rall LC, Peterson CA. Lack of multidisciplinary collaboration is a barrier to outcomes research. Journal of the American Dietetic Association. 2002; 102(1):65-71

ISBN 978-1-4731-3560-4

77. Garralda E, Hasselaar J, Carrasco JM, Van Beek K, Siouta N, Csikos A et al. Integrated palliative care in the Spanish context: a systematic review of the literature. BMC Palliative Care. 2016; 15:49

78. Gillett K, Reed L, Bryan L. Using action learning sets to support change in end-of-life care. Leadership in Health Services. 2017; 30(2):184-193

79. Gomes B, Calanzani N, Curiale V, McCrone P, Higginson IJ. Effectiveness and cost-effectiveness of home palliative care services for adults with advanced illness and their caregivers. Cochrane Database of Systematic Reviews 2013, Issue 6. Art. No.: CD007760. DOI: 10.1002/14651858.CD007760.pub2.

80. Gordon E, Ridley B, Boston J, Dahl E. The building bridges initiative: learning with, from and about to create an interprofessional end-of-life program. Dynamics. 2012; 23(4):37-41

81. Gow P, Berg S, Smith D, Ross D. Care co-ordination improves quality-of-care at South Auckland Health. Journal of Quality in Clinical Practice. 1999; 19(2):107-110

82. Grande GE. Does hospital at home for palliative care facilitate death at home? Randomised controlled study. BMJ. 1999; 4(12):1472-1475

83. Grande GE, Todd CJ, Barclay SIG, Farquhar MC. A randomized controlled trial of a hospital at home service for the terminally ill. Palliative Medicine. 2000; 14(5):375-385

84. Grogan E, Paes P, Peel T. Excellence in cost-effective inpatient specialist palliative care in the NHS : A new model. Clinical Medicine. 2016; 16(1):7-11

85. Hall S, Kolliakou A, Petkova H, Froggatt K, Higginson IJ. Interventions for improving palliative care for older people living in nursing care homes. Cochrane Database of Systematic Reviews 2011, Issue 3. Art. No.: CD007132. DOI: 10.1002/14651858.CD007132.pub2.

86. Hanks GW, Robbins M, Sharp D, Forbes K, Done K, Peters TJ et al. The imPaCT study: A randomised controlled trial to evaluate a hospital palliative care team. British Journal of Cancer. 2002; 87(7):733-739

87. Hanson LC, Reynolds KS, Henderson M, Pickard CG. A quality improvement intervention to increase palliative care in nursing homes. Journal of Palliative Medicine. 2005; 8(3):576-584

88. Head BA, LaJoie S, Augustine-Smith L, Cantrell M, Hofmann D, Keeney C et al. Palliative care case management: Increasing access to community-based palliative care for Medicaid recipients. Professional Case Management. 2010; 15(4):206-217

89. Health Quality Ontario. Team-based models for end-of-life care: An evidence-based analysis. Ontario Health Technology Assessment Series. 2014; 14(20):1-49

90. Heath H. Outcomes from the work of registered nurses working with older people in UK care homes. International Journal of Older People Nursing. 2010; 5(2):116-127

91. Higginson IJ, Evans CJ. What is the evidence that palliative care teams improve outcomes for cancer patients and their families? Cancer Journal. 2010; 16(5):423-435

92. Higginson IJ, Finlay I, Goodwin DM, Cook AM, Hood K, Edwards AGK et al. Do hospital-based palliative teams improve care for patients or families at the end of life? Journal of Pain and Symptom Management. 2002; 23(2):96-106

93. Higginson IJ, Finlay IG, Goodwin DM, Hood K, Edwards AG, Cook A et al. Is there evidence that palliative care teams alter end-of-life experiences of patients and their caregivers? Journal of Pain and Symptom Management. 2003; 25(2):150-168

ISBN 978-1-4731-3560-4

94. Hill A. Multiprofessional teamwork in hospital palliative care teams. International Journal of Palliative Nursing. 1998; 4(5):214-221

95. Hockley J. The development of a palliative care team at the Western General Hospital, Edinburgh. Supportive care in cancer : official journal of the Multinational Association of Supportive Care in Cancer. 1996; 4(2):77-81

96. Hodgen RK, Ferguson D, Davis C, White A. Congestive heart failure: examining the influence of nurse case management on health care outcomes. Care Management. 2002; 8(4):16-22

97. Hoek PD, Schers HJ, Bronkhorst EM, Vissers KCP, Hasselaar JGJ. The effect of weekly specialist palliative care teleconsultations in patients with advanced cancer -a randomized clinical trial. BMC Medicine. 2017; 15(1):119

98. Hollingworth S, Zhang J, Vaikuntam BP, Jackson C, Mitchell G. Case conference primary-secondary care planning at end of life can reduce the cost of hospitalisations. BMC Palliative Care. 2016; 15 (1):84

99. Hong BY, Bainbridge D, Hsien S. Measuring interprofessional collaboration between two palliative care teams. Journal of Hospice and Palliative Nursing. 2015; 17(3):229-234

100. Horey DE, Street AF, Sands AF. Acceptability and feasibility of end-of-life care pathways in Australian residential aged care facilities. Medical Journal of Australia. 2012; 197(2):106-109

101. Houben CHM, Spruit MA, Wouters EFM. A randomised controlled trial on the efficacy of advance care planning on the quality of end-of-life care and communication in patients with COPD : the research protocol. BMJ Open. 2014; 4(1):e004465

102. Houston K, Petronis K, Denham K, Kosier M. An interdisciplinary approach to inpatient palliative care. Continuum (Society for Social Work Administrators in Health Care). 1995; 15(6):9-16

103. Hughes SL, Cummings J, Weaver F, Manheim L, Braun B, Conrad K. A randomized trial of the cost effectiveness of VA hospital-based home care for the terminally ill. Health Services Research. 1992; 26(6):801-817

104. Hughes SL, Weaver FM, Giobbie-Hurder A, Manheim L, Henderson W. Effectiveness of team-managed home-based primary care: a randomized multicenter trial. JAMA. 2000; 284(22):2877-2885

105. Hui D, Bruera E. Models of integration of oncology and palliative care. Annals of Palliative Medicine. 2015; 4(3):89-98

106. Hummel DL, Hill C, Shaw JG, Slightam C, Asch SM, Zulman DM. Nurse Practitioner−led Intensive Outpatient Team: Effects on End-of-life Care. The Journal for Nurse Practitioners. 2017; 13(5):e245-e248

107. Hussainy SY, Box M, Scholes S. Piloting the role of a pharmacist in a community palliative care multidisciplinary team: an Australian experience. BMC Palliative Care. 2011; 10:16

108. Ingleton C, Chatwin J, Seymour J, Payne S. The role of health care assistants in supporting district nurses and family carers to deliver palliative care at home: Findings from an evaluation project. Journal of Clinical Nursing. 2011; 20(13-14):2043-2052

ISBN 978-1-4731-3560-4

109. Iwase S, Murakami T, Saito Y, Nakagawa K. Preliminary statistical assessment of intervention by a palliative care team working in a Japanese general inpatient unit. American Journal of Hospice & Palliative Medicine. 2007; 24(1):29-35 27p

110. Jacobson JO. Multidisciplinary cancer management: A systems-based approach to deliver complex care. Journal of Oncology Practice. 2010; 6(6):274-275

111. Johnson M, Nunn A, Hawkes T, Stockdale S, Daley A. Planning for end-of-life care in heart failure: Experience of two integrated cardiology-palliative care teams. British Journal of Cardiology. 2012; 19(2):71-75

112. Jongen JL, Overbeck A, Stronks DL, van Zuylen L, Booms M, Huygen FJ et al. Effectiveness of a multidisciplinary consultation team for cancer pain and palliative care in a large university hospital in The Netherlands. BMJ Supportive & Palliative Care. 2011; 1(3):322-328

113. Jordhoy MS, Fayers P, Loge JH, Ahlner-Elmqvist M, Kaasa S. Quality of life in palliative cancer care: results from a cluster randomized trial. Journal of Clinical Oncology. 2001; 19(18):3884-3894

114. Jordhoy MS, Fayers P, Saltnes T, Ahlner-Elmqvist M, Jannert M, Kaasa S. A palliative-care intervention and death at home: a cluster randomised trial. Lancet. 2000; 356(9233):888-893

115. Kasper EK, Gerstenblith G, Hefter G, Van Anden E, Brinker JA, Thiemann DR et al. A randomized trial of the efficacy of multidisciplinary care in heart failure outpatients at high risk of hospital readmission. Journal of the American College of Cardiology. 2002; 39(3):471-480

116. Kayser-Jones J, Chan J, Kris A. A model long-term care hospice unit: Care, community, and compassion. Geriatric Nursing. 2005; 26(1):16-20, 64

117. Kenny R, Wilson E. Successful multidisciplinary team working: An evaluation of a Huntington's disease service. British Journal of Neuroscience Nursing. 2012; 8(3):137-142 136p

118. Kirby E, Broom A, Good P. The role and significance of nurses in managing transitions to palliative care: A qualitative study. BMJ Open. 2014; 4(9):e006026

119. Klaasen K, Lamont L, Krishnan P. Setting a new standard of care in nursing homes. Canadian Nurse. 2009; 105(9):24-30

120. Klarare A, Hagelin CL, Furst CJ, Fossum B. Team interactions in specialized palliative care teams: A qualitative study. Journal of Palliative Medicine. 2013; 16(9):1062-1069

121. Klinger CA, Howell D, Zakus D, Deber RB. Barriers and facilitators to care for the terminally ill: A cross-country case comparison study of Canada, England, Germany, and the United States. Palliative Medicine. 2014; 28(2):111-120

122. Knight G, Jordan C. All-Wales integrated care pathway project for care homes: Completing the audit cycle: Retrospective baseline audit findings of documented care during the last days of life of residents who died in care homes and the re-audit findings following implementation of the ICP. Journal of Integrated Care Pathways. 2007; 11(3):112-119

123. Koczywas M, Cristea M, Thomas J, McCarty C, Borneman T, Del Ferraro C et al. Interdisciplinary palliative care intervention in metastatic non-small-cell lung cancer. Clinical Lung Cancer. 2013; 14(6):736-744

ISBN 978-1-4731-3560-4

124. Lamba S, Nagurka R, Zielinski A, Scott SR. Palliative care provision in the emergency department: Barriers reported by emergency physicians. Journal of Palliative Medicine. 2013; 16(2):143-147

125. Lamont T, Richardson A. Better endings: A review of end-of-life services. Nursing Times. 2016; 112(12):16-18

126. Leclerc BS, Blanchard L, Cantinotti M, Couturier Y, Gervais D, Lessard S et al. The effectiveness of interdisciplinary teams in end-of-life palliative care: A systematic review of comparative studies. Journal of Palliative Care. 2014; 30(1):44-54

127. Levesque RF. The PACE (Program of All-Inclusive Care for the Elderly) model--success in cooperation. Caring. 1993; 12(10):62-66

128. Lingard L, Espin S, Evans C, Hawryluck L. The rules of the game: Interprofessional collaboration on the intensive care unit team. Critical Care. 2004; 8(6):R403-408

129. Llobera J, Sanso N, Ruiz A, Llagostera M, Serratusell E, Serrano C et al. Strengthening primary health care teams with palliative care leaders: protocol for a cluster randomized clinical trial. BMC Palliative Care. 2017; 17(1):4

130. Lloyd-Williams M, Rashid A. An analysis of calls to an out-of-hours palliative care advice line. Public Health. 2003; 117(2):125-127

131. Long MJ, Marshall BS, Kurowski S. The effect of case management and type of case manager on service use and costs during the last month of life: results of a randomized trial. Abstract Book/Association for Health Services Research. 1997; 14:153-154

132. Lu CY, Shen WC, Kao CY, Wang HM, Tang SC, Chin TL et al. Impact of palliative care consultation service on terminally ill cancer patients: A 9-year observational cohort study in Taiwan. Medicine. 2016; 95(10):e2981

133. Luckett T, Chenoweth L, Phillips J, Brooks D, Cook J, Mitchell G et al. A facilitated approach to family case conferencing for people with advanced dementia living in nursing homes: Perceptions of palliative care planning coordinators and other health professionals in the ideal study. International Psychogeriatrics. 2017; 29(10):1713-1722

134. Luckett T, Phillips J, Agar M, Verdun C, Green A, Davidson PM. Elements of effective palliative care models : a rapid review. BMC Health Services Research. 2014; 14:136

135. MacDonald LD, Addington-Hall JM, Anderson HR. Acceptability and perceived effectiveness of a district co-ordinating service for terminal care: Implications for quality assurance. Journal of Advanced Nursing. 1994; 20(2):337-343

136. MacMahon DG. Parkinson's disease nurse specialists: an important role in disease management. Neurology. 1999; 52(7 Suppl 3):S21-25

137. MacNeil Vroomen JL, Boorsma M, Bosmans JE, Frijters DH, Nijpels G, van Hout HP. Is it time for a change? A cost-effectiveness analysis comparing a multidisciplinary integrated care model for residential homes to usual care. PloS One. 2012; 7(5):e37444

138. Madden KA, Waldo M, Cleeter D. The specialized role of the RN in the Program of All-inclusive Care for the Elderly (PACE) interdisciplinary care team. Geriatric Nursing. 2014; 35(3):199-204

ISBN 978-1-4731-3560-4

139. Maeyama E, Kawa M, Miyashita M, Ozawa T, Futami N, Nakagami Y et al. Multiprofessional team approach in palliative care units in Japan. Supportive Care in Cancer. 2003; 11(8):509-515

140. Mahmood-Yousuf K, Munday D, King N, Dale J. Interprofessional relationships and communication in primary palliative care: Impact of the Gold Standards Framework. British Journal of General Practice. 2008; 58(549):256-263

141. Main J. The development of an Integrated Care Pathway for all patients with advanced life-limiting illness: The Supportive Care Pathway. Journal of Nursing Management. 2006; 14(7):521-528

142. Marie Curie Cancer Care. Committed to carers : supporting carers of people at the end of life. 2012. Available from: http://www.mariecurie.org.uk/Documents/HEALTHCARE-PROFESSIONALS/commissioning-services/committed-to-care-Mar-12.pdf

143. Marsh CJ, Boult M, Wang JX, Maddern GJ, Roder DM, Kollias J. National breast cancer audit: The use of multidisciplinary care teams by breast surgeons in Australia and New Zealand. Medical Journal of Australia. 2008; 188(7):385-386

144. Martin JS, Ummenhofer W, Manser T, Spirig R. Interprofessional collaboration among nurses and physicians: Making a difference in patient outcome. Swiss Medical Weekly. 2010; 140:w13062

145. Martoni AA, Melotti B, Degli Esposti C, Mutri V, Lelli G, Ansaloni S et al. Impact of intervention aimed at improving the integration of oncology units and local palliative care services: results of the multicentre prospective sequential MIRTO study. Esmo Open. 2017; 2(1):e000116

146. McIllmurray MB, Cummings M, Hopkins E, McCann C. Cancer support nurses: a co-ordinating role in cancer care. European Journal of Cancer Care. 1998; 7(2):125-128

147. Meier DE, Beresford L. Palliative care in long-term care: How can hospital teams interface? Journal of Palliative Medicine. 2010; 13(2):111-115

148. Meier DE, Thar W, Jordan A, Goldhirsch SL, Siu A, Morrison RS. Integrating case management and palliative care. Journal of Palliative Medicine. 2004; 7(1):119-134

149. Melin AL. A randomized trial of multidisciplinary in-home care for frail elderly patients awaiting hospital discharge. Aging. 1995; 7(3):247-250

150. Mellor F, Foley T, Connolly M, Mercer V, Spanswick M. Role of a clinical facilitator in introducing an integrated care pathway for the care of the dying. International Journal of Palliative Nursing. 2004; 10(10):497-501

151. Miller JJ, Frost MH, Rummans TA, Huschka M, Atherton P, Brown P et al. Role of a medical social worker in improving quality of life for patients with advanced cancer with a structured multidisciplinary intervention. Journal of Psychosocial Oncology. 2007; 25(4):105-119

152. Minetti A. Working together. An interdisciplinary approach to dying patients in a palliative care unit. Journal of Medical Ethics. 2011; 37(12):715-718

153. Mitchell GK, Senior HE, Bibo MP, Makoni B, Young SN, Rosenberg JP et al. Evaluation of a pilot of nurse practitioner led, GP supported rural palliative care provision. BMC Palliative Care. 2016; 15(1):93

ISBN 978-1-4731-3560-4

154. Mitton C, O'Neil D, Simpson L, Hoppins Y, Harcus S. Nurse-Physician Collaborative Partnership: a rural model for the chronically ill. Canadian Journal of Rural Medicine. 2007; 12(4):208-216

155. Modrcin M, Rapp CA, Poertner J. The evaluation of case management services with the chronically mentally ill. Evaluation and Program Planning. 1988; 11(4):307-314

156. Morita T, Fujimoto K, Tei Y. Palliative care team: The first year audit in Japan. Journal of Pain and Symptom Management. 2005; 29(5):458-465

157. Morrison RS, Dietrich J, Ladwig S, Quill T, Sacco J, Tangeman J et al. Palliative care consultation teams cut hospital costs for Medicaid beneficiaries. Health Affairs. 2011; 30(3):454-463

158. Mullen MM, Divine LM, Porcelli BP, Wilkinson-Ryan I, Dans MC, Powell MA et al. The effect of a multidisciplinary palliative care initiative on end of life care in gynecologic oncology patients. Gynecologic Oncology. 2017; 04:04

159. Munday D, Mahmood K, Dale J, King N. Facilitating good process in primary palliative care: Does the Gold Standards Framework enable quality performance? Family Practice. 2007; 24(5):486-494

160. Murphy A, Siebert K, Owens D, Doorenbos A. Health care utilization by patients is managed by a primary palliative Whose Care Care Clinic. Journal of Hospice and Palliative Nursing. 2013; 15(7):372-381

161. Nagaviroj K, Anothaisintawee T. A study of the association between multidisciplinary home care and home death among Thai palliative care patients. American Journal of Hospice & Palliative Medicine. 2017; 34(5):397-403

162. National Institute for Health and Care Excellence. Developing NICE guidelines: the manual. London. National Institute for Health and Care Excellence, 2014. Available from: http://www.nice.org.uk/article/PMG20/chapter/1%20Introduction%20and%20overview

163. Neergaard MA, Vedsted P, Olesen F, Sokolowski I, Jensen AB. Associations between home death and GP involvement in palliative cancer care. British Journal of General Practice. 2009; 59(566):671-677

164. Nelson C, Chand P, Sortais J, Oloimooja J, Rembert G. Inpatient palliative care consults and the probability of hospital readmission. Permanente Journal. 2011; 15(2):48-51

165. Nelson JE, Bassett R, Boss RD, Brasel KJ, Campbell ML, Cortez TB et al. Models for structuring a clinical initiative to enhance palliative care in the intensive care unit: A report from the IPAL-ICU Project (Improving Palliative Care in the ICU). Critical Care Medicine. 2010; 38(9):1765-1772

166. Noome M, Dijkstra BM, Leeuwen E, Vloet LCM. Effectiveness of supporting intensive care units on implementing the guideline 'End-of-life care in the intensive care unit, nursing care': a cluster randomized controlled trial. Journal of Advanced Nursing. 2017; 73(6):1339-1354

167. O'Connor M, Palfreyman S, Le B, Lau R. Establishing a nurse practitioner model to enhance continuity between palliative care settings. International Journal of Palliative Nursing. 2016; 22(12):581-585

168. O'Mahony S, Coyle N, Payne R. Multidisciplinary care of the terminally ill patient. Surgical Clinics of North America. 2000; 80(2):729-745, xi

ISBN 978-1-4731-3560-4

169. O'Neill WM, O'Connor PO, Latimer EJ. Hospital palliative care services: Three models in three countries. Journal of Pain and Symptom Management. 1992; 7(7):406-413

170. Ogelby M, Goldstein RD. Interdisciplinary Care: Using your team. Pediatric Clinics of North America. 2014; 61(4):823-834

171. Oliver D. The development of an interdisciplinary outpatient clinic in specialist palliative care. International Journal of Palliative Nursing. 2004; 10(9):446-448

172. Organisation for Economic Co-operation and Development (OECD). Purchasing power parities (PPP). 2017. Available from: http://www.oecd.org/std/ppp Last accessed: 25/08/2017.

173. Owens D, Eby K, Burson S, Green M, McGoodwin W, Isaac M. Primary palliative care clinic pilot project demonstrates benefits of a nurse practitioner-directed clinic providing primary and palliative care. Journal of the American Academy of Nurse Practitioners. 2012; 24(1):52-58

174. Ozcelik H, Fadiloglu C, Karabulut B, Uyar M. Examining the effect of the case management model on patient results in the palliative care of patients with cancer. American Journal of Hospice & Palliative Medicine. 2014; 31(6):655-664

175. Parker Oliver D, Wittenberg-Lyles EM, Day M. Variances in perceptions of interdisciplinary collaboration by hospice staff. Journal of Palliative Care. 2006; 22(4):275-280

176. Parsons M, Senior H, Kerse N, Chen Mh, Jacobs S, Vanderhoorn S et al. Should care managers for older adults be located in primary care? A randomized controlled trial. Journal of the American Geriatrics Society. 2012; 60(1):86-92

177. Pawlowska I, Pawlowski L, Lichodziejewska-Niemierko M. The role of a pharmacist in a hospice: A nationwide survey among hospice directors, pharmacists and physicians. European Journal of Hospital Pharmacy. 2016; 23(2):106-112

178. Pesut B, Duggleby W, Warner G, Fassbender K, Antifeau E, Hooper B et al. Volunteer navigation partnerships: Piloting a compassionate community approach to early palliative care. BMC Palliative Care. 2017; 17(1):2

179. Pesut B, Hooper B, Jacobsen M, Nielsen B, Falk M, BP OC. Nurse-led navigation to provide early palliative care in rural areas: a pilot study. BMC Palliative Care. 2017; 16(1):37

180. Pinelle D, Gutwin C. Supporting collaboration in multidisciplinary home care teams. Proceedings of the AMIA Symposium. 2002:617-621

181. Porter-Williamson K, Parker M, Babbott S, Steffen P, Stites S. A model to improve value: the interdisciplinary palliative care services agreement. Journal of Palliative Medicine. 2009; 12(7):609-615

182. Powazki RD, Walsh D, Shrotriya S. A prospective study of the clinical content of palliative medicine interdisciplinary team meetings. American Journal of Hospice & Palliative Medicine. 2015; 32(8):789-796

183. Radwany S, Mason H, Clarke JS, Clough L, Sims L, Albanese T. Optimizing the success of a palliative care consult service: How to average over 110 consults per month. Journal of Pain and Symptom Management. 2009; 37(5):873-883

ISBN 978-1-4731-3560-4

184. Randstrom KB, Wengler Y, Asplund K, Svedlund M. Working with 'hands-off' support: A qualitative study of multidisciplinary teams' experiences of home rehabilitation for older people. International Journal of Older People Nursing. 2014; 9(1):25-33

185. Reese DJ, Sontag MA. Successful interprofessional collaboration on the hospice team. Health and Social Work. 2001; 26(3):167-175

186. Riolfi M, Buja A, Zanardo C, Marangon CF, Manno P. 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. Palliative Medicine. 2014; 28(5):403-411

187. Rock W. Interdisciplinary teamwork in palliative care and hospice settings. The American journal of hospice & palliative care. 2003; 20(5):331-333

188. Ruiz-Iniguez R, Bravo Sobrino N, Pena Ibanez F, Navarro Siguero N, Seco Martinez A, Carralero Montero A. Nursing intervention on quality of life in people with home-based palliative care: a systematic review. Medicina Paliativa. 2017; 24(2):72-82

189. Sahlen KG, Boman K, Brannstrom M. A cost-effectiveness study of person-centered integrated heart failure and palliative home care: Based on a randomized controlled trial. Palliative Medicine. 2016; 30(3):296-302

190. Schoch M, Bennett P, Fiolet R, Kent B, Au C. Renal access coordinators' impact on haemodialysis patient outcomes and associated service delivery: A systematic review. JBI Library of Systematic Reviews. 2012; 10(Suppl 56):S227-S238

191. Schrader SL, Horner A, Eidsness L, Young S, Wright C, Robinson M. A team approach in palliative care: enhancing outcomes. South Dakota Journal of Medicine. 2002; 55(7):269-278

192. Seamark D, Blake S, Brearley S. Dying at home : a qualitative study of family carers' views of support provided by GPs community staff. British Journal of General Practice. 2014; 64(629):633-634

193. Seow H, Brazil K, Sussman J. Impact of community based, specialist palliative care teams on hospitalisations and emergency department visits late in life and hospital deaths. BMJ. 2014; 348:g3496

194. Shafer JW. Interdisciplinary consultation service: a team approach to counseling hospitalized and terminally ill patients. Bulletin - American Protestant Hospital Association. 1977; 41(2):42-46

195. Shah S, Marcinkoski R. Who cares for the dying? Using a consultant pharmacist to implement a call back program for palliative patients. Canadian Pharmaceutical Journal. 2002; 135(3):23-25

196. Shannon K, Van Reenen C. PACE (Program of All-Inclusive Care for the Elderly): Innovative care for the frail elderly. Comprehensive services enable most participants to remain at home. Health Progress. 1998; 79(5):41-45

197. Shelby-James TM, Butow P, Davison G, Currow DC. Case conferences in palliative care - a substudy of a cluster randomised controlled trial. Australian Family Physician. 2012; 41(8):608-612

198. Sheppherd S, Iliffe S. The effectiveness of hospital at home compared with in-patient hospital care: A systemic review. Journal of Public Health Medicine. 1998; 20(3):344-350

ISBN 978-1-4731-3560-4

199. Sherr VT, Goffi MT. On-site geropsychiatric services to guests of residential homes. Journal of the American Geriatrics Society. 1977; 25(6):269-272

200. Sherry D. Reinventing home care: the transdisciplinary team. Home Healthcare Nurse. 1994; 12(5):9

201. Shipman C, Addington-Hall J, Thompson M, Pearce A, Barclay S, Cox I et al. Building bridges in palliative care: Evaluating a GP Facilitator programme. Palliative Medicine. 2003; 17(7):621-627

202. Silbermann M, Pitsillides B, Al-Alfi N, Omran S, Al-Jabri K, Elshamy K et al. Multidisciplinary care team for cancer patients and its implementation in several Middle Eastern countries. Annals of Oncology. 2013; 24(suppl 7):vii41-vii47

203. Siouta N, Van Beek K, van der Eerden ME, Preston N, Hasselaar JG, Hughes S et al. Integrated palliative care in Europe: a qualitative systematic literature review of empirically-tested models in cancer and chronic disease. BMC Palliative Care. 2016; 15:56

204. Skilbeck JK, Payne SA, Ingleton MC, Nolan M, Carey I, Hanson A. An exploration of family carers' experience of respite services in one specialist palliative care unit. Palliative Medicine. 2005; 19(8):610-618

205. Smeenk FWJM. Effectiveness of home care programmes for patients with incurable cancer on their quality of life and time spent in hospital : Systematic review. BMJ. 1998; 316(7149):1939-1944

206. Smith AP. Case management: key to access, quality, and financial success. Nursing Economics. 2003; 21(5):237-240, 244

207. Smith M, Yuen K. Palliative care in the home. The GP/home hospice team. Australian Family Physician. 1994; 23(7):1260-1265

208. Sommers LS, Marton KI, Barbaccia JC, Randolph J. Physician, nurse, and social worker collaboration in primary care for chronically ill seniors. Archives of Internal Medicine. 2000; 160(12):1825-1833

209. Soukop M, Robinson A, Soukop D, Ingham-Clark CL, Kelly MJ. Results of a survey of the role of multidisciplinary team coordinators for colorectal cancer in England and Wales. Colorectal Disease. 2007; 9(2):146-150

210. Stewart F, Goddard CSRHS. Advanced care planning in care homes for older people : a qualitative study of the views of care staff and families. Age and Ageing. 2011; 40(4):330-335

211. Stranges PM, Marshall VD, Walker PC, Hall KE, Griffith DK, Remington T. A multidisciplinary intervention for reducing readmissions among older adults in a patient-centered medical home. American Journal of Managed Care. 2015; 21(2):106-113

212. Street A, Blackford J. Communication issues for the interdisciplinary community palliative care team. Journal of Clinical Nursing. 2001; 10(5):643-650

213. Strohscheer I, Verebes J, Samonigg H. Implementation of a palliative care team in an Austrian university hospital. Supportive Care in Cancer. 2006; 14(8):795-801

214. Strong S, Blencowe NS, Fox T, Reid C, Crosby T, Ford HER et al. The role of multi-disciplinary teams in decision-making for patients with recurrent malignant disease. Palliative Medicine. 2012; 26(7):954-958

ISBN 978-1-4731-3560-4

215. Sun V, Grant M, Koczywas M, Freeman B, Zachariah F, Fujinami R et al. Effectiveness of an interdisciplinary palliative care intervention for family caregivers in lung cancer. Cancer. 2015; 121(20):3737-3745

216. Tan LH, Delaney A. Medical emergency teams and end-of-life care: a systematic review. Critical Care and Resuscitation. 2014; 16(1):62-68

217. Tan WS, Lee A, Yang SY, Chan S, Wu HY, Ng CW et al. Integrating palliative care across settings: A retrospective cohort study of a hospice home care programme for cancer patients. Palliative Medicine. 2016; 30(7):634-641

218. Taylor Jr DH, Bull J, Zhong X, Samsa G, Abernethy AP. The effect of palliative care on patient functioning. Journal of Palliative Medicine. 2013; 16(10):1227-1231

219. Temkin-Greener H, Ladwig S, Ye Z, Norton SA, Mukamel DB. Improving palliative care through teamwork (IMPACTT) in nursing homes: Study design and baseline findings. Contemporary Clinical Trials. 2017; 56:1-8

220. Teno JM. Family perspectives on end-of-life care at the last place of care. JAMA. 2004; 291(1):88-93

221. Terashita-Tan S. Striving for wholeness and transdisciplinary teamwork at a pacific basin's pain and palliative care department. Omega. 2013; 67(1-2):207-212

222. The National Council for Palliative Care. Dying out-of-hours : 24/7 care at the end of life : conference report. 2011. Available from: http://www.macmillan.org.uk/Documents/GetInvolved/Campaigns/Campaigns/DyingoutofhoursIpdf

223. Thomas K, Rowlands MS, Wilson JA. PA18 Heart of gold. integrating cross boundary care across different sectors with patients at the heart of care - a population-based public health perspective. BMJ Supportive & Palliative Care. 2015; 5 (Suppl. 1):A25

224. Valgus J, Jarr S, Schwartz R, Rice M, Bernard SA. Pharmacist-led, interdisciplinary model for delivery of supportive care in the ambulatory cancer clinic setting. Journal of Oncology Practice. 2010; 6(6):e1-e4

225. van de Mortel TF, Marr K, Burmeister E, Koppe H, Ahern C, Walsh R et al. Reducing avoidable admissions in rural community palliative care: a pilot study of care coordination by General Practice registrars. Australian Journal of Rural Health. 2017; 25(3):141-147

226. van der Plas AG, Hagens M, Pasman HR, Schweitzer B, Duijsters M, Onwuteaka-Philipsen BD. PaTz groups for primary palliative care: Reinventing cooperation between general practitioners and district nurses in palliative care: an evaluation study combining data from focus groups and a questionnaire. BMC Family Practice. 2014; 15:14

227. van der Plas AGM, Francke AL, Vissers KC, Jansen WJJ, Deliens L, Onwuteaka-Philipsen BD. Case management in primary palliative care is associated more strongly with organisational than with patient characteristics: Results from a cross-sectional prospective study. BMC Palliative Care. 2015; 02

228. van der Plas AGM, Onwuteaka-Philipsen BD, Vissers KC, Deliens L, Jansen WJJ, Francke AL. Appraisal of cooperation with a palliative care case manager by general practitioners and community nurses: A cross-sectional questionnaire study. Journal of Advanced Nursing. 2016; 72(1):147-157

229. Van Der Plas AGM, Vissers KC, Francke AL, Donker GA, Jansen WJJ, Deliens L et al. Involvement of a case manager in palliative care reduces hospitalisations at the

ISBN 978-1-4731-3560-4

end of life in cancer patients; a mortality follow- back study in primary care. PloS One. 2015; 10(7):e0133197

230. Vanbutsele G, Van Belle S, De Laat M, Surmont V, Geboes K, Eecloo K et al. The systematic early integration of palliative care into multidisciplinary oncology care in the hospital setting (IPAC), a randomized controlled trial: The study protocol. BMC Health Services Research. 2015; 15:554

231. Ventafridda V. Providing continuity of care for cancer patients. Journal of Psychosocial Oncology. 1990; 8(2-3):3-10

232. Villarreal D, Restrepo MI, Healy J, Howard B, Tidwell J, Ross J et al. A model for increasing palliative care in the intensive care unit: Enhancing interprofessional consultation rates and communication. Journal of Pain and Symptom Management. 2011; 42(5):676-679

233. Walling AM, D'Ambruoso SF, Malin JL, Hurvitz S, Zisser A, Coscarelli A et al. Effect and efficiency of an embedded palliative care nurse practitioner in an oncology clinic. Journal of Oncology Practice. 2017; 13(9):e792-e799

234. Walshe C, Caress A, Chew-Graham C, Todd C. Implementation and impact of the Gold Standards Framework in community palliative care: A qualitative study of three primary care trusts. Palliative Medicine. 2008; 22(6):736-743

235. Weng TC, Yang YC, Chen PJ, Kuo WF, Wang WL, Ke YT et al. Implementing a novel model for hospice and palliative care in the emergency department. Medicine. 2017; 96(19):e6943

236. Wiebe LA, Von Roenn JH. Working with a palliative care team. Cancer Journal. 2010; 16(5):488-492

237. Wierzchowiecki M, Poprawski K, Nowicka A, Kandziora M, Piatkowska A, Jankowiak M et al. A new programme of multidisciplinary care for patients with heart failure in Pozna?: One-year follow-up. Kardiologia Polska. 2006; 64(10):1063-1070; discussion 1071-1062

238. Wilks JA, Liebig C, Tasleem SH, Haderxhanaj K, Lee L, Farrow B et al. Rectal cancer patients benefit from implementation of a dedicated colorectal cancer center in a Veterans Affairs Medical Center. American Journal of Surgery. 2009; 198(1):100-104

239. Willingham N. Developing an end-of-life program for long term care residents. Joint Commission Journal on Quality & Patient Safety. 2005; 31(6):328-329

240. Wittenberg-Lyles E, Parker Oliver D, Demiris G, Baldwin P. The active intervention in hospice interdisciplinary team meetings: Exploring family caregiver and hospice team communication. Journal of Computer-Mediated Communication. 2010; 15(3):465-481

241. Wootton R, Gramotnev H, Hailey D. Telephone-supported care coordination in an Australian veterans population: A randomized controlled trial. Journal of Telemedicine and Telecare. 2010; 16(2):57-62

242. Yamada M, Hagihara A, Nobutomo K. Family caregivers and care manager support under long-term care insurance in rural Japan. Psychology, Health & Medicine. 2009; 14(1):73-85

243. Yuen KJ, Behrndt MM, Jacklyn C, Mitchell GK. Palliative care at home: General practitioners working with palliative care teams. Medical Journal of Australia. 2003; 179(Suppl 6):S38-40

ISBN 978-1-4731-3560-4

244. Zimmer JG, Groth-Juncker A, McCusker J. A randomized controlled study of a home health care team. American Journal of Public Health. 1985; 75(2):134-141

245. Zimmermann C. Effectiveness of specialized palliative care : a systematic review. JAMA. 2008; 299(14):1698-1709

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Appendices

Appendix A: Review protocols

Table 15: Review protocol for what is the best composition of a multiprofessional team to facilitate the continuity and coordination of care for people who are in their last year of life?

Question number: 4

Relevant section of Scope: Service delivery models for end of life care, including both acute, community and third sector settings covering:

- types of services (supportive and palliative care) provided by generalists and specialists during the course of the last year of life,
- who delivers the services and how, multidisciplinary team composition,
- timing and review of service provision,
- location of services, for example, place of care,
- out of hours, weekend and 24/7 availability of services.

Field names are based on PRISMA-P.]

ID	Field	Content
I	Review question	What is the best composition of a multiprofessional team to facilitate the continuity and coordination of care for people who are in their last year of life?
II	Type of review question	Intervention review. A review of health economic evidence related to the same review question was conducted in parallel with this review. For details see the health economic review protocol for this NICE guideline.
III	Objective of the review	To identify the most clinically and cost-effective MPT composition to facilitate the continuity and coordination of care for people who are in their last year of life
IV	Eligibility criteria – population / disease / condition / issue / domain	Adults (aged over 18 or over) with progressive life-limiting conditions thought to be entering the last year of life.
V	Eligibility criteria – intervention(s) / exposure(s) / prognostic factor(s)	• Multiprofessional team service
VI	Eligibility criteria – comparator(s) / control or reference (gold) standard	• To each other (different MPT composition) • Other service (not based on multiprofessional team) • Usual care
VII	Outcomes and prioritisation	CRITICAL • Quality of life (Continuous) • Preferred and actual place of death (Dichotomous)

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		• Preferred and actual place of care (Dichotomous) IMPORTANT • Length of survival (Continuous) • Length of stay (Continuous) • Hospitalisation (Dichotomous) • Number of hospital visits (Dichotomous) • Number of visits to accident and emergency (Dichotomous) • Number of unscheduled admissions (Dichotomous) • Use of community services (Dichotomous) • Avoidable/inappropriate admissions to ICU (Dichotomous) • Use of community services (Dichotomous) • Avoidable/inappropriate admissions to ICU (Dichotomous) • Inappropriate resuscitation (Dichotomous) • Staff satisfaction (Continuous) • Patient/carer reported outcomes (satisfaction) (Continuous)
VIII	Eligibility criteria – study design	• Systematic reviews • RCTs • Non-randomised comparative studies, including before and after studies
IX	Other inclusion exclusion criteria	• Children and young people (17 years or younger) in their last year of life • Studies will only be included if they reported one of more of the outcomes listed above • Descriptive (non-comparative) studies will be excluded
X	Proposed sensitivity / subgroup analysis, or meta-regression	Subgroup analyses if there is no heterogeneity: • Younger adults (aged 18-25) • Frail elderly • People with dementia • People with hearing loss • People with advanced heart and lung disease • People in prisons • Socioeconomic inequalities (people from lower income brackets) • Homeless people/vulnerably housed • Travellers • People with learning difficulties • People with disabilities • People with mental health problems • Migrant workers • LGBT • People in whom life-prolonging therapies are still an active option
XI	Selection process – duplicate screening / selection / analysis	Quality assurance will be undertaken by a senior research fellow prior to completion. Review strategy/other analysis: • Information on identification tools used as part of a service will be extracted.

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		• Due to the expected complexity of the service models implemented in the studies, studies will be reported separately if necessary. In such case, studies on the populations included in the subgroup list will be highlighted to the Committee and will be considered when making the recommendations
XII	Data management (software)	• Pairwise meta-analyses were performed using Cochrane Review Manager (RevMan5). • GRADEpro was used to assess the quality of evidence for each outcome. • Endnote was used for: ○ Bibliography, citations, sifting and reference management • Evibase was used for ○ Data extraction and quality assessment / critical appraisal
XIII	Information sources – databases and dates	Clinical search databases to be used: Medline, Embase, Cochrane Library, Current Nursing and Allied Health Literature (CINAHL), PsycINFO, Healthcare Management Information Consortium (HMIC), Social Policy and Practice (SSP), Applied Social Sciences Index and Abstracts (ASSIA) Date: All years Health economics search databases to be used: Medline, Embase, NHSEED, HTA Date: Medline, Embase from 2014 NHSEED, HTA – All years Language: Restrict to English only
XIV	Identify if an update	Not applicable.
XV	Author contacts	https://www.nice.org.uk/guidance/indevelopment/gid-cgwave0799
XVI	Highlight if amendment to previous protocol	For details please see section 4.5 of Developing NICE guidelines: the manual.
XVII	Search strategy – for one database	For details please see Appendix B
XVIII	Data collection process – forms / duplicate	A standardised evidence table format will be used, and published as Appendix D of the evidence report.
XIX	Data items – define all variables to be collected	For details please see evidence tables in Appendix D (clinical evidence tables) or H (health economic evidence tables).
XX	Methods for assessing bias at outcome / study level	Standard study checklists were used to critically appraise individual studies. For details please see section 6.2 of Developing NICE guidelines: the manual The risk of bias across all available evidence was evaluated for each outcome using an adaptation of the 'Grading of Recommendations Assessment, Development and Evaluation

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		(GRADE) toolbox' developed by the international GRADE working group http://www.gradeworkinggroup.org/ [Please document any deviations/alternative approach when GRADE isn't used or if a modified GRADE approach has been used for non-intervention or non-comparative studies.]
XXI	Criteria for quantitative synthesis	For details please see section 6.4 of Developing NICE guidelines: the manual.
XXII	Methods for quantitative analysis – combining studies and exploring (in)consistency	For details please see the separate Methods report for this guideline.
XXIII	Meta-bias assessment – publication bias, selective reporting bias	For details please see section 6.2 of Developing NICE guidelines: the manual.
XXIV	Confidence in cumulative evidence	For details please see sections 6.4 and 9.1 of Developing NICE guidelines: the manual.
XXV	Rationale / context – what is known	For details please see the introduction to the evidence review.
XXVI	Describe contributions of authors and guarantor	A multi-disciplinary committee [https://www.nice.org.uk/guidance/indevelopment/gid-cgwave0799] developed the evidence review. The committee was convened by the National Guideline Centre (NGC) and chaired by Mark Thomas in line with section 3 of Developing NICE guidelines: the manual. Staff from NGC undertook systematic literature searches, appraised the evidence, conducted meta-analysis and cost-effectiveness analysis where appropriate, and drafted the evidence review in collaboration with the committee. For details please see Developing NICE guidelines: the manual.
XXVII	Sources of funding / support	NGC is funded by NICE and hosted by the Royal College of Physicians.
XXVIII	Name of sponsor	NGC is funded by NICE and hosted by the Royal College of Physicians.
XXIX	Roles of sponsor	NICE funds NGC to develop guidelines for those working in the NHS, public health and social care in England.
XXX	PROSPERO registration number	Not registered

Table 16: Health economic review protocol

Review question	All questions – health economic evidence
Objectives	To identify health economic studies relevant to any of the review questions.
Search criteria	• Populations, interventions and comparators must be as specified in the clinical review protocol above. • Studies must be of a relevant health economic study design (cost–utility analysis, cost-effectiveness analysis, cost–benefit analysis, cost–consequences analysis, comparative cost analysis). • Studies must not be a letter, editorial or commentary, or a review of health economic evaluations. (Recent reviews will be ordered although not reviewed. The bibliographies will be checked for relevant studies, which will then be ordered.)

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	• Unpublished reports will not be considered unless submitted as part of a call for evidence. • Studies must be in English.
Search strategy	A health economic study search will be undertaken using population-specific terms and a health economic study filter – see Appendix G *[in the Full guideline]*
Review strategy	Studies not meeting any of the search criteria above will be excluded. Studies published before 2007, abstract-only studies and studies from non-OECD countries or the USA will also be excluded. Each remaining study will be assessed for applicability and methodological limitations using the NICE economic evaluation checklist which can be found in Appendix H of Developing NICE guidelines: the manual (2014).[162] **Inclusion and exclusion criteria** • If a study is rated as both 'Directly applicable' and with 'Minor limitations' then it will be included in the guideline. A health economic evidence table will be completed and it will be included in the health economic evidence profile. • If a study is rated as either 'Not applicable' or with 'Very serious limitations' then it will usually be excluded from the guideline. If it is excluded then a health economic evidence table will not be completed and it will not be included in the health economic evidence profile. • If a study is rated as 'Partially applicable', with 'Potentially serious limitations' or both then there is discretion over whether it should be included. **Where there is discretion** The health economist will make a decision based on the relative applicability and quality of the available evidence for that question, in discussion with the guideline committee if required. The ultimate aim is to include health economic studies that are helpful for decision-making in the context of the guideline and the current NHS setting. If several studies are considered of sufficiently high applicability and methodological quality that they could all be included, then the health economist, in discussion with the committee if required, may decide to include only the most applicable studies and to selectively exclude the remaining studies. All studies excluded on the basis of applicability or methodological limitations will be listed with explanation as excluded health economic studies in Appendix M. The health economist will be guided by the following hierarchies. *Setting:* • UK NHS (most applicable). • OECD countries with predominantly public health insurance systems (for example, France, Germany, Sweden). • OECD countries with predominantly private health insurance systems (for example, Switzerland). • Studies set in non-OECD countries or in the USA will be excluded before being assessed for applicability and methodological limitations. *Health economic study type:* • Cost–utility analysis (most applicable). • Other type of full economic evaluation (cost–benefit analysis, cost-effectiveness analysis, cost–consequences analysis). • Comparative cost analysis. • Non-comparative cost analyses including cost-of-illness studies will be excluded before being assessed for applicability and methodological limitations. *Year of analysis:* • The more recent the study, the more applicable it will be. • Studies published in 2007 or later but that depend on unit costs and resource data entirely or predominantly from before 2007 will be rated as 'Not applicable'.

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	• Studies published before 2007 will be excluded before being assessed for applicability and methodological limitations. *Quality and relevance of effectiveness data used in the health economic analysis:* • The more closely the clinical effectiveness data used in the health economic analysis match with the outcomes of the studies included in the clinical review the more useful the analysis will be for decision-making in the guideline.

Appendix B: Literature search strategies

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual 2014, updated 2017 https://www.nice.org.uk/guidance/pmg20/resources/developing-nice-guidelines-the-manual-pdf-72286708700869

For more detailed information, please see the Methodology Review.

B.1 Clinical search literature search strategy

Searches for were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 17: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (Ovid)	1946 – 04 January 2019	Exclusions
Embase (Ovid)	1974 – 04 January 2019	Exclusions
The Cochrane Library (Wiley)	Cochrane Reviews to Issue 1 of 12, January 2019 CENTRAL to Issue 1 of 12, January 2019 DARE, and NHSEED to Issue 2 of 4 2015 HTA to Issue 4 of 4 2016	None
CINAHL, Current Nursing and Allied Health Literature (EBSCO)	Inception – 04 January 2019	Limiters - English Language; Exclude MEDLINE records; Publication Type: Clinical Trial, Journal Article, Meta Analysis, Randomized Controlled Trial, Systematic Review: Age Groups: All Adult; Language: English
PsycINFO (ProQuest)	Inception – 04 January 2019	Study type
HMIC. Healthcare Management Information Consortium (Ovid)	1979 – 04 January 2019	Exclusions
SPP, Social Policy and Practice	1981 – 04 January 2019	Study types

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Database	Dates searched	Search filter used
ASSIA, Applied Social Sciences Index and Abstracts (ProQuest)	1987 – 04 January 2019	None

Medline (Ovid) search terms

1.	Palliative care/
2.	Terminal care/
3.	Hospice care/
4.	palliat*.ti,ab.
5.	Terminally Ill/
6.	((terminal* or long term or longterm) adj2 (care* or caring or ill*)).ti,ab.
7.	((dying or terminal) adj (phase* or stage*)).ti,ab.
8.	life limit*.ti,ab.
9.	Nursing Homes/
10.	((care or nursing) adj2 (home or homes)).ti,ab.
11.	Respite Care/
12.	((respite or day) adj2 (care or caring)).ti,ab.
13.	Hospices/
14.	hospice*.ti,ab.
15.	*Patient care planning/
16.	*"Continuity of Patient Care"/
17.	((advance* or patient*) adj3 (care or caring) adj3 (continu* or plan*)).ti,ab.
18.	*Attitude to Death/
19.	(attitude* adj3 (death* or dying*)).ti,ab.
20.	*Physician-Patient Relations/
21.	*Long-Term Care/
22.	*"Delivery of Health Care"/
23.	(end adj2 life).ti,ab.
24.	EOLC.ti,ab.
25.	((last or final) adj2 (year or month*) adj2 life).ti,ab.
26.	((dying or death) adj2 (patient* or person* or people or care or caring)).ti,ab.
27.	or/1-26
28.	letter/

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29.	editorial/
30.	news/
31.	exp historical article/
32.	Anecdotes as Topic/
33.	comment/
34.	case report/
35.	(letter or comment*).ti.
36.	or/28-35
37.	randomized controlled trial/ or random*.ti,ab.
38.	36 not 37
39.	animals/ not humans/
40.	exp Animals, Laboratory/
41.	exp Animal Experimentation/
42.	exp Models, Animal/
43.	exp Rodentia/
44.	(rat or rats or mouse or mice).ti.
45.	or/38-44
46.	27 not 45
47.	limit 46 to English language
48.	(exp child/ or exp pediatrics/ or exp infant/) not (exp adolescent/ or exp adult/ or exp middle age/ or exp aged/)
49.	47 not 48
50.	patient care team/
51.	interdisciplinary communication/
52.	(((interdisciplin* or inter-disciplin* or interprofession* or inter-profession* or multidisciplin* or multi-disciplin* or multi-profession* or multiprofession* or transprofession* or trans-profession*) adj2 (team* or staff* or meeting* or manag* or appointment* or system* or program* or practic* or advic* or advis* or caring or intervention* or ward* or round* or panel* or forum* or fora or communicat* or collaborat* or relat*)) or MDT or IDT).ti,ab.
53.	(((integrat* or network*) adj2 (team* or staff* or meeting* or manag* or appointment* or system* or program* or practic* or advic* or advis* or caring or intervention* or ward* or round* or panel* or forum* or fora or communicat* or collaborat* or relat*)) or MDT or IDT).ti,ab.
54.	(key adj2 work*).ti,ab.
55.	((healthcare or care) adj2 (lead or leader or leads or facilitat*)).ti,ab.
56.	((healthcare or care) adj1 profession*).ti,ab.
57.	*Case Management/
58.	(case adj2 manage*).ti,ab.
59.	(co-ordinator* or coordinator* or coordinate* or co-ordinate*).ti,ab.
60.	Or/50-59
61.	49 and 60
62.	interdisciplinary communication/
63.	exp Communication Barriers/
64.	(communicat* or discuss* or speak* or talk* or convers* or contact).ti,ab.
65.	((handover or hand over or share or shared or sharing or transfer*) adj3 information*).ti,ab.
66.	(followup or follow up).ti,ab.

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67.	(palliativ* adj2 (care or caring)).ti,ab.
68.	Or/74-79
69.	49 and 60 and 68
70.	(commission* adj2 (support* or service* or model*)).ti,ab.
71.	((service* or program* or co-ordinat* or co ordinat* or coordinat*) adj2 (model* or deliver* or strateg* or support* or access* or method* or system* or policies or policy or availab*)).ti,ab.
72.	Critical Pathways/
73.	((critical or clinic* or service* or care) adj2 path*).ti,ab.
74.	Patient Care Bundles/
75.	(care adj2 (bundle* or service* or package* or standard*)).ti,ab.
76.	or/70-75
77.	(assess* or criteria* or predict* or recogni* or identif* or refer*).ti,ab.
78.	49 and 76 and 77
79.	gold standard*.ti,ab.
80.	49 and 79
81.	(amber adj2 bundle).ti,ab.
82.	78 or 80 or 81
83.	Social Welfare/ec, ed, es, eh, ma, st, sn, td [Economics, Education, Ethics, Ethnology, Manpower, Standards, Statistics & Numerical Data, Trends]
84.	Charities/ec, ed, es, ma, mt, og, st, sn, sd, td, ut [Economics, Education, Ethics, Manpower, Methods, Organization & Administration, Standards, Statistics & Numerical Data, Supply & Distribution, Trends, Utilization]
85.	Home Care Services/ec, ed, es, ma, mt, og, st, sn, sd, td, ut [Economics, Education, Ethics, Manpower, Methods, Organization & Administration, Standards, Statistics & Numerical Data, Supply & Distribution, Trends, Utilization]
86.	Community Health Nursing/ec, ed, es, ma, mt, og, st, sn, sd, td, ut [Economics, Education, Ethics, Manpower, Methods, Organization & Administration, Standards, Statistics & Numerical Data, Supply & Distribution, Trends, Utilization]
87.	Telemedicine/ec, es, ma, mt, og, st, sn, td, ut [Economics, Ethics, Manpower, Methods, Organization & Administration, Standards, Statistics & Numerical Data, Trends, Utilization]
88.	exp remote consultation/
89.	*telemedicine/ or *telepathology/ or *teleradiology/ or *telerehabilitation/
90.	(telemedicine or tele medicine or telehealth or tele health or virtual hospital* or helpline* or help line* or rapid response team* or telepathology or teleradiology or telerehabilitatio).ti,ab.
91.	((tele* or remote) adj2 consult*).ti,ab.
92.	Mobile Health Units/ec, es, ma, og, st, sn, sd, td, ut [Economics, Ethics, Manpower, Organization & Administration, Standards, Statistics & Numerical Data, Supply & Distribution, Trends, Utilization]
93.	(mobile adj2 (health or care) adj2 unit*).ti,ab.
94.	(hospital-based home care or HBHC or hospital-based hospice care or acute hospital care).ti,ab.
95.	(hospital adj3 (domicil* or home)).ti,ab.
96.	home hospitali*ation.ti,ab.
97.	exp Home Care Agencies/
98.	(social adj (welfare or care)).ti,ab.
99.	(nurs* adj4 (home-visit* or home visit* or home-based or home based)).ti,ab.
100.	((district* or communit* or home or visit*) adj nurs*).ti,ab.

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101.	(community adj2 (health care or healthcare or nursing or nurse*)).ti,ab.
102.	((hospitali*ation* or admission* or readmission* or admit*) adj3 (reduc* or avoid* or prevent* or inappropiate or increase* or risk*)).ti,ab.
103.	Or/83-102
104.	*"Continuity of Patient Care"/
105.	*Aftercare/ or *Patient discharge/ or *Patient handoff/ or *Patient transfer/ or *Transitional care/
106.	Patient Discharge Summaries/
107.	((patient* or person* or people or nursing* or clinic*) adj (discharg* or handover* or hand* over* or handoff* or hand off* or signout* or sign* out* or signover* or sign* over*)).ti,ab.
108.	((care or caring or serv*) adj2 (continu* or change* or transition* or transfer*)).ti,ab.
109.	(discharg* adj2 (facilitat* or rapid* or pathway* or path way* or plan* or program*)).ti,ab.
110.	Or/104-109
111.	exp Advance Care Planning/
112.	(advance* adj2 (plan* or decision* or directive*)).ti,ab.
113.	living will*.ti,ab.
114.	or/111-113
115.	After-Hours Care/
116.	((morning* or evening* or weekday or weekend* or 7 day or seven day or seven-day or after-hour* or 24 hour* or 24hour* or twenty-four-hour* or out-of-hour* or 9-5 or Monday-Friday or Saturday or Sunday) adj3 (service* or access* or availab* or hour* or appointment* or care or caring or palliativ* or pharmacy* or telephone* or advic* or advis* or consult* or support* or nurs* or speciali* or physician* or doctor* or expert* or professional* or paramedic* or general practioner* or GP* or social worker* or case worker* or ambulance* or health worker* or physiotherapist* or therapist*)).ti,ab.
117.	rapid response.ti,ab.
118.	Hospital Rapid Response Team/
119.	(critical care adj2 outreach).ti,ab.
120.	medical emergency team*.ti,ab.
121.	(hospital* adj2 home*).ti,ab.
122.	hospital at night.ti,ab.
123.	("NHS 111" or "NHS 24" or "NHS Direct").ti,ab.
124.	exp telemedicine/
125.	(telehealth* or tele-health* or telemedicine* or tele-medicine* or teleconsult* or tele-consult* or tele-monitor* or telemonitor* or telemanag* or tele-manag* or telepharm* or tele-pharm* or telenurs* or tele-nurs* or tele-homecare or telehomecare or tele-support or telesupport or mobile health or ehealth or e-health or mhealth or m-health).ti,ab.
126.	hotlines/
127.	(hotline* or helpline* or help-line* or call cent* or call service*).ti,ab.
128.	((email* or e-mail* or telephone* or phone* or video*) adj3 (servic* or advic* or advis* or consult* or support* or care* or caring* or appoint*)).ti,ab.
129.	Or/115-128
130.	Caregivers/
131.	Spouses/
132.	Family/
133.	(spouse* or wife or wives or husband* or carer* or caregiver* or care giver* or significant other* or friend* or partner* or family or families or individual* or sibling* or brother* or sister* or relative or relatives or mothers* or daughters* or father* or son or

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	sons or uncle* or aunt* or grand mother* or grandmother* or grandfather* or grand father* or aunt* or uncle* or cousin* or niece* or nephew*).ti,ab.
134.	Or/130-133
135.	((replacement or break* or holiday* or respite) adj3 (care* or service*)).ti,ab.
136.	((communit* or support* or psychosocial* or psycholog*) adj3 (service* or group* or system*)).ti,ab.
137.	((group* or support* or psychosocial* or psycholog*) adj3 (selfhelp or self help or therap*)).ti,ab.
138.	((psychosocial* or psycholog*) adj2 support*).ti,ab.
139.	Self-Help Groups/
140.	exp social support/
141.	Counseling/
142.	(counseling or counselling*).ti,ab.
143.	(buddy* or buddies).ti,ab.
144.	((health* or medical*) adj2 check*).ti,ab.
145.	((spouse* or wife or wives or husband* or carer* or caregiver* or care giver* or significant other* or friend* or partner* or family or families or individual* or sibling* or brother* or sister* or relative or relatives or mothers* or daughters* or father* or son or sons or uncle* or aunt* or grand mother* or grandmother* or grandfather* or grand father* or aunt* or uncle* or cousin* or niece* or nephew*) adj3 (education or educate or educating or information or literature or leaflet* or booklet* or pamphlet* or website* or knowledge)).ti,ab.
146.	or/125-145
147.	49 and 134 and 146
148.	49 and (103 or 110 or 114 or 129)
149.	61 or 69 or 82 or 147 or 148

Embase (Ovid) search terms

1.	*Palliative therapy/
2.	*Terminal care/
3.	*Hospice care/
4.	palliat*.ti,ab.
5.	*Terminally ill patient/
6.	((terminal* or long term or longterm) adj2 (care* or caring or ill*)).ti,ab.
7.	((dying or terminal) adj (phase* or stage*)).ti,ab.
8.	life limit*.ti,ab.
9.	*Nursing home/
10.	((care or nursing) adj2 (home or homes)).ti,ab.
11.	*Respite Care/
12.	((respite or day) adj2 (care or caring)).ti,ab.
13.	*Hospice/
14.	hospice*.ti,ab.
15.	*Patient care planning/
16.	((advance* or patient*) adj3 (care or caring) adj3 (continu* or plan*)).ti,ab.
17.	*Patient care/
18.	*Attitude to Death/
19.	(attitude* adj3 (death* or dying*)).ti,ab.
20.	*Doctor patient relation/

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21.	*Long term care/
22.	*Health care delivery/
23.	(end adj2 life).ti,ab.
24.	EOLC.ti,ab.
25.	((last or final) adj2 (year or month*) adj2 life).ti,ab.
26.	((dying or death) adj2 (patient* or person* or people or care or caring)).ti,ab.
27.	or/1-26
28.	letter.pt. or letter/
29.	note.pt.
30.	editorial.pt.
31.	case report/ or case study/
32.	(letter or comment*).ti.
33.	or/28-32
34.	randomized controlled trial/ or random*.ti,ab.
35.	33 not 34
36.	animal/ not human/
37.	nonhuman/
38.	exp Animal Experiment/
39.	exp Experimental Animal/
40.	animal model/
41.	exp Rodent/
42.	(rat or rats or mouse or mice).ti.
43.	or/35-42
44.	27 not 43
45.	(exp child/ or exp pediatrics/ or exp infant/) not (exp adolescent/ or exp adult/ or exp middle age/ or exp aged/)
46.	44 not 45
47.	limit 46 to English language
48.	interdisciplinary communication/
49.	patient care team*.ti,ab.
50.	(((interdisciplin* or inter-disciplin* or interprofession* or inter-profession* or multidisciplin* or multi-disciplin* or multi-profession* or multiprofession* or transprofession* or trans-profession*) adj2 (team* or staff* or meeting* or manag* or appointment* or system* or program* or practic* or advic* or advis* or caring or intervention* or ward* or round* or panel* or forum* or fora or communicat* or collaborat* or relat*)) or MDT or IDT).ti,ab.
51.	(((integrat* or network*) adj2 (team* or staff* or meeting* or manag* or appointment* or system* or program* or practic* or advic* or advis* or caring or intervention* or ward* or round* or panel* or forum* or fora or communicat* or collaborat* or relat*)) or MDT or IDT).ti,ab.
52.	(key adj2 work*).ti,ab.
53.	((healthcare or care) adj2 (lead or leader or leads or facilitat*)).ti,ab.
54.	((healthcare or care) adj1 profession*).ti,ab.
55.	*Case Management/
56.	(case adj2 manage*).ti,ab.
57.	(co-ordinator* or coordinator* or coordinate* or co-ordinate*).ti,ab.
58.	Or/50-57

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59.	47 and 58
60.	interdisciplinary communication/
61.	(communicat* or discuss* or speak* or talk* or convers* or contact).ti,ab.
62.	((handover or hand over or share or shared or sharing or transfer*) adj3 information*).ti,ab.
63.	(followup or follow up).ti,ab.
64.	(palliativ* adj2 (care or caring)).ti,ab.
65.	Or/60-64
66.	47 and 58 and 65
67.	(commission* adj2 (support* or service* or model*)).ti,ab.
68.	((service* or program* or co-ordinat* or co ordinat* or coordinat*) adj2 (model* or deliver* or strateg* or support* or access* or method* or system* or policies or policy or availab*)).ti,ab.
69.	*Clinical Pathway/
70.	((critical or clinic* or service* or care) adj2 path*).ti,ab.
71.	*Care Bundle/
72.	(care adj2 (bundle* or service* or package* or standard*)).ti,ab.
73.	or/67-72
74.	(assess* or criteria* or predict* or recogni* or identif* or refer*).ti,ab.
75.	47 and 73 and 74
76.	gold standard*.ti,ab.
77.	47 and 76
78.	(amber adj2 bundle).ti,ab.
79.	75 or 77 or 78
80.	(advance* adj2 (plan* or decision* or directive*)).ti,ab.
81.	living will*.ti,ab.
82.	80 or 81
83.	*Caregiver/
84.	*Spouse/
85.	*Family/
86.	(spouse* or wife or wives or husband* or carer* or caregiver* or care giver* or significant other* or friend* or partner* or family or families or individual* or sibling* or brother* or sister* or relative or relatives or mothers* or daughters* or father* or son or sons or uncle* or aunt* or grand mother* or grandmother* or grandfather* or grand father* or aunt* or uncle* or cousin* or niece* or nephew*).ti,ab.
87.	Or/83-86
88.	((replacement or break* or holiday* or respite) adj3 (care* or service*)).ti,ab.
89.	((communit* or support* or psychosocial* or psycholog*) adj3 (service* or group* or system*)).ti,ab.
90.	((group* or support* or psychosocial* or psycholog*) adj3 (selfhelp or self help or therap*)).ti,ab.
91.	((psychosocial* or psycholog*) adj2 support*).ti,ab.
92.	*Self-Help/
93.	*Social support/
94.	*Counseling/
95.	(counseling or counselling*).ti,ab.
96.	(buddy* or buddies).ti,ab.
97.	((health* or medical*) adj2 check*).ti,ab.

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98.	((spouse* or wife or wives or husband* or carer* or caregiver* or care giver* or significant other* or friend* or partner* or family or families or individual* or sibling* or brother* or sister* or relative or relatives or mothers* or daughters* or father* or son or sons or uncle* or aunt* or grand mother* or grandmother* or grandfather* or grand father* or aunt* or uncle* or cousin* or niece* or nephew*) adj3 (education or educate or educating or information or literature or leaflet* or booklet* or pamphlet* or website* or knowledge)).ti,ab.
99.	or/88-98
100.	47 and 87 and 99
101.	*social welfare/
102.	*community health nursing/ or *community care/
103.	*senior center/
104.	*telemedicine/ or *telehealth/
105.	*teleconsultation/
106.	(telehealth or tele health or virtual hospital* or helpline* or help line* or rapid response team* or mobile health unit*).ti,ab.
107.	*home care/ or *home health agency/ or *home monitoring/ or *home oxygen therapy/ or *home physiotherapy/ or *home rehabilitation/ or *home respiratory care/ or *respite care/ or *visiting nursing service/
108.	*health care personnel/ or *health auxiliary/ or *nursing home personnel/
109.	(telemedicine or tele medicine or telehealth or tele health or virtual hospital* or helpline* or help line* or rapid response team* or telepathology or teleradiology or telerehabilitatio).ti,ab.
110.	((tele* or remote) adj2 consult*).ti,ab.
111.	(mobile adj2 (health or care) adj2 unit*).ti,ab.
112.	(hospital-based home care or HBHC or hospital-based hospice care or acute hospital care).ti,ab.
113.	(hospital adj3 (domicil* or home)).ti,ab.
114.	home hospitali*ation.ti,ab.
115.	(social adj (welfare or care)).ti,ab.
116.	(nurs* adj4 (home-visit* or home visit* or home-based or home based)).ti,ab.
117.	((district* or communit* or home or visit*) adj nurs*).ti,ab.
118.	(community adj2 (health care or healthcare or nursing or nurse*)).ti,ab.
119.	((hospitali*ation* or admission* or readmission* or admit*) adj3 (reduc* or avoid* or prevent* or inappropiate or increase* or risk*)).ti,ab.
120.	Or/101-119
121.	*patient care/ or *case management/ or *patient care planning/ or *rapid response team/
122.	*aftercare/
123.	*hospital discharge/
124.	*clinical handover/
125.	*transitional care/
126.	*patient care planning/
127.	*medical record/
128.	((patient* or person* or people or nursing* or clinic*) adj (discharg* or handover* or hand* over* or handoff* or hand off* or signout* or sign* out* or signover* or sign* over*)).ti,ab.
129.	((care or caring or serv*) adj2 (continu* or change* or transition* or transfer*)).ti,ab.
130.	(discharg* adj2 (facilitat* or rapid* or pathway* or path way* or plan* or program*)).ti,ab.

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131.	Or/121-130
132.	(after hours care or after-hours care).ti,ab.
133.	((morning* or evening* or weekday or weekend* or 7 day or seven day or seven-day or after-hour* or 24 hour* or 24hour* or twenty-four-hour* or out-of-hour* or 9-5 or Monday-Friday or Saturday or Sunday) adj3 (service* or access* or availab* or hour* or appointment* or care or caring or palliativ* or pharmacy* or telephone* or advic* or advis* or consult* or support* or nurs* or speciali* or physician* or doctor* or expert* or professional* or paramedic* or general practioner* or GP* or social worker* or case worker* or ambulance* or health worker* or physiotherapist* or therapist*)).ti,ab.
134.	rapid response.ti,ab.
135.	rapid response team/
136.	(critical care adj2 outreach).ti,ab.
137.	medical emergency team*.ti,ab.
138.	(hospital* adj2 home*).ti,ab.
139.	hospital at night.ti,ab.
140.	("NHS 111" or "NHS 24" or "NHS Direct").ti,ab.
141.	exp telehealth/
142.	(telehealth* or tele-health* or telemedicine* or tele-medicine* or teleconsult* or tele-consult* or tele-monitor* or telemonitor* or telemanag* or tele-manag* or telepharm* or tele-pharm* or telenurs* or tele-nurs* or tele-homecare or telehomecare or tele-support or telesupport or mobile health or ehealth or e-health or mhealth or m-health).ti,ab.
143.	telephone/
144.	(hotline* or helpline* or help-line* or call cent* or call service*).ti,ab.
145.	((email* or e-mail* or telephone* or phone* or video*) adj3 (servic* or advic* or advis* or consult* or support* or care* or caring* or appoint*)).ti,ab.
146.	or/132-145
147.	47 and (82 or 120 or 131 or 146)
148.	59 or 66 or 79 or 100 or 147

Cochrane Library (Wiley) search terms

#1.	MeSH descriptor: [Palliative Care] this term only
#2.	MeSH descriptor: [Terminal Care] this term only
#3.	MeSH descriptor: [Hospice Care] this term only
#4.	palliat*:ti,ab
#5.	MeSH descriptor: [Terminally Ill] this term only
#6.	((terminal* or long term or longterm) near/2 (care* or caring or ill*)):ti,ab
#7.	((dying or terminal) near (phase* or stage*)):ti,ab
#8.	life limit*:ti,ab
#9.	MeSH descriptor: [Nursing Homes] explode all trees
#10.	((care or nursing) near/2 (home or homes)):ti,ab
#11.	MeSH descriptor: [Respite Care] this term only
#12.	((respite or day) near/2 (care or caring)):ti,ab
#13.	MeSH descriptor: [Hospices] this term only
#14.	hospice*:ti,ab
#15.	MeSH descriptor: [Patient Care Planning] this term only
#16.	MeSH descriptor: [Continuity of Patient Care] this term only
#17.	((advance* or patient*) near/3 (care or caring) near/3 (continu* or plan*)):ti,ab
#18.	MeSH descriptor: [Attitude to Death] explode all trees

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#19.	(attitude* near/3 (death* or dying*)):ti,ab
#20.	MeSH descriptor: [Physician-Patient Relations] this term only
#21.	MeSH descriptor: [Long-Term Care] this term only
#22.	MeSH descriptor: [Delivery of Health Care] this term only
#23.	(end near/2 life):ti,ab
#24.	EOLC:ti,ab
#25.	((last or final) near/2 (year or month*) near/2 life):ti,ab
#26.	((dying or death) near/2 (patient* or person* or people or care or caring)):ti,ab
#27.	(or #1-#26)
#28.	MeSH descriptor: [Patient Care Team] explode all trees
#29.	MeSH descriptor: [Interdisciplinary Communication] explode all trees
#30.	(((interdisciplin* or inter-disciplin* or interprofession* or inter-profession* or multidisciplin* or multi-disciplin* or multi-profession* or multiprofession* or transprofession* or trans-profession*) near/2 (team* or staff* or meeting* or manag* or appointment* or system* or program* or practic* or advic* or advis* or caring or intervention* or ward* or round* or panel* or forum* or fora or communicat* or collaborat* or relat*)) or MDT or IDT):ti,ab
#31.	((integrat* or network*) near/2 (team* or staff* or meeting* or manag* or appointment* or system* or program* or practic* or advic* or advis* or caring or intervention* or ward* or round* or panel* or forum* or fora or communicat* or collaborat* or relat*)):ti,ab
#32.	(key near/2 work*):ti,ab
#33.	((healthcare or care) near/2 (lead or leader or leads or facilitat*)):ti,ab
#34.	((healthcare or care) near/1 profession*):ti,ab
#35.	MeSH descriptor: [Case Management] this term only
#36.	(case near/2 manage*):ti,ab
#37.	(co-ordinator* or coordinator* or coordinate* or co-ordinate*):ti,ab
#38.	(or #28-#37)
#39.	#27 and #38
#40.	MeSH descriptor: [Interdisciplinary Communication] explode all trees
#41.	MeSH descriptor: [Communication Barriers] explode all trees
#42.	(communicat* or discuss* or speak* or talk* or convers* or contact):ti,ab
#43.	((handover or hand over or share or shared or sharing or transfer*) near/3 information*):ti,ab
#44.	(followup or follow up):ti,ab
#45.	(palliativ* near/2 (care or caring)):ti,ab
#46.	(or #40-#45)
#47.	#27 and #38 and #46
#48.	MeSH descriptor: [Advance Care Planning] explode all trees
#49.	(advance* near/2 (plan* or decision* or directive*)):ti,ab
#50.	living will*:ti,ab
#51.	(or #48-#50)
#52.	(commission* near/2 (support* or service* or model*)):ti,ab
#53.	((service* or program* or co-ordinat* or co ordinat* or coordinat*) near/2 (model* or deliver* or strateg* or support* or access* or method* or system* or policies or policy or availab*)):ti,ab
#54.	MeSH descriptor: [Critical Pathways] explode all trees
#55.	((critical or clinic* or service* or care) near/2 path*):ti,ab
#56.	MeSH descriptor: [Patient Care Bundles] explode all trees

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#57.	(care near/2 (bundle* or service* or package* or standard*)):ti,ab
#58.	(or #52-#57)
#59.	(assess* or criteria* or predict* or recogni* or identif* or refer*):ti,ab
#60.	#27 and #58 and #59
#61.	gold standard*:ti,ab
#62.	#27 and #61
#63.	(amber near/2 bundle):ti,ab
#64.	#60 or #62 or #63
#65.	MeSH descriptor: [Caregivers] this term only
#66.	MeSH descriptor: [Spouses] this term only
#67.	MeSH descriptor: [Family] this term only
#68.	(spouse* or wife or wives or husband* or carer* or caregiver* or care giver* or significant other* or friend* or partner* or family or families or individual* or sibling* or brother* or sister* or relative or relatives or mothers* or daughters* or father* or son or sons or uncle* or aunt* or grand mother* or grandmother* or grandfather* or grand father* or aunt* or uncle* or cousin* or niece* or nephew*):ti,ab
#69.	(or #65-68)
#70.	((replacement or break* or holiday* or respite) near/3 (care* or service*)):ti,ab
#71.	((communit* or support* or psychosocial* or psycholog*) near/3 (service* or group* or system*)):ti,ab
#72.	((group* or support* or psychosocial* or psycholog*) near/3 (selfhelp or self help or therap*)):ti,ab
#73.	((psychosocial* or psycholog*) near/2 support*):ti,ab
#74.	MeSH descriptor: [Self-Help Groups] this term only
#75.	MeSH descriptor: [Social Support] explode all trees
#76.	MeSH descriptor: [Counseling] this term only
#77.	(counseling or counselling*):ti,ab
#78.	(buddy* or buddies):ti,ab
#79.	(health or medical*) near/3 check*:ti,ab
#80.	(spouse* or wife or wives or husband* or carer* or caregiver* or care giver* or significant other* or friend* or partner* or family or families or individual* or sibling* or brother* or sister* or relative or relatives or mothers* or daughters* or father* or son or sons or uncle* or aunt* or grand mother* or grandmother* or grandfather* or grand father* or aunt* or uncle* or cousin* or niece* or nephew*) near/3 (education or educate or educating or information or literature or leaflet* or booklet* or pamphlet* or website* or knowledge):ti,ab
#81.	(or #70-#60)
#82.	#27 and #69 and #81
#83.	MeSH descriptor: [Social Welfare] explode all trees
#84.	MeSH descriptor: [Charities] explode all trees
#85.	MeSH descriptor: [Adult Day Care Centers] explode all trees
#86.	MeSH descriptor: [Community Health Nursing] explode all trees
#87.	MeSH descriptor: [Home Care Services] explode all trees
#88.	MeSH descriptor: [Senior Centers] explode all trees
#89.	MeSH descriptor: [Telemedicine] this term only
#90.	MeSH descriptor: [Remote Consultation] explode all trees
#91.	(telehealth or tele health or virtual hospital* or helpline* or help line* or rapid response team*):ti,ab
#92.	MeSH descriptor: [Mobile Health Units] explode all trees

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#93.	((community based or community dwelling home or rural) near/3 (care or health care or healthcare)):ti,ab
#94.	(hospital-based home care or HBHC or hospital-based hospice care or acute hospital care):ti,ab
#95.	((hospitali*ation* or admission* or readmission* or admit*) near/3 (reduc* or avoid* or prevent* or inappropiate or increase* or risk*)):ti,ab
#96.	(home based versus hospital based):ti,ab
#97.	(hospital near/3 (domicil* or home)):ti,ab
#98.	(home hospitali*ation):ti,ab
#99.	MeSH descriptor: [Home Care Services, Hospital-Based] explode all trees
#100.	MeSH descriptor: [Home Health Nursing] explode all trees
#101.	MeSH descriptor: [Homemaker Services] explode all trees
#102.	MeSH descriptor: [Home Care Agencies] explode all trees
#103.	MeSH descriptor: [Home Health Aides] explode all trees
#104.	(social care):ti,ab
#105.	MeSH descriptor: [Nurses, Community Health] explode all trees
#106.	(nurs* near/4 (home-visit* or home visit* or home-based or home based)):ti,ab
#107.	((district* or communit* or home or visit*) near nurs*):ti,ab
#108.	(Or #83-#107)
#109.	MeSH descriptor: [Continuity of Patient Care] this term only
#110.	MeSH descriptor: [Aftercare] this term only
#111.	MeSH descriptor: [Patient Discharge] this term only
#112.	MeSH descriptor: [Patient Handoff] this term only
#113.	MeSH descriptor: [Patient Transfer] this term only
#114.	MeSH descriptor: [Transitional Care] this term only
#115.	MeSH descriptor: [Patient Discharge Summaries] this term only
#116.	((patient* or person* or people or nursing* or clinic*) near (discharg* or handover* or hand* over* or handoff* or hand off* or signout* or sign* out* or signover* or sign* over*)):ti,ab
#117.	((care or caring or serv*) near/2 (continu* or change* or transition* or transfer*)):ti,ab
#118.	(discharg* near/2 (facilitat* or rapid* or pathway* or path way* or plan* or program*)):ti,ab
#119.	(or #109-#118)
#120.	MeSH descriptor: [After-Hours Care] explode all trees
#121.	((morning* or evening* or weekday or weekend* or 7 day or seven day or seven-day or after-hour* or 24 hour* or 24hour* or twenty-four-hour* or out-of-hour* or 9-5 or Monday-Friday or Saturday or Sunday) near/3 (service* or access* or availab* or hour* or appointment* or care or caring or palliativ* or pharmacy* or telephone* or advic* or advis* or consult* or support* or nurs* or speciali* or physician* or doctor* or expert* or professional* or paramedic* or general practioner* or GP* or social worker* or case worker* or ambulance* or health worker* or physiotherapist* or therapist*)):ti,ab
#122.	rapid next response:ti,ab
#123.	MeSH descriptor: [Hospital Rapid Response Team] explode all trees
#124.	medical next emergency next team*:ti,ab
#125.	(hospital* near/2 home*):ti,ab
#126.	hospital next at next night:ti,ab
#127.	(NHS next (111 or 24 or direct)):ti,ab
#128.	MeSH descriptor: [Telemedicine] this term only

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#129.	(telehealth* or tele-health* or telemedicine* or tele-medicine* or teleconsult* or tele-consult* or tele-monitor* or telemonitor* or telemanag* or tele-manag* or telepharm* or tele-pharm* or telenurs* or tele-nurs* or tele-homecare or telehomecare or tele-support or telesupport or mobile health or ehealth or e-health or mhealth or m-health):ti,ab
#130.	MeSH descriptor: [Hotlines] explode all trees
#131.	(hotline* or helpline* or help-line* or call cent* or call service*):ti,ab
#132.	((email* or e-mail* or telephone* or phone* or video*) near/3 (servic* or advic* or advis* or consult* or support* or care* or caring* or appoint*)):ti,ab
#133.	(or #120-#132)
#134.	#27 and (#51 or #108 or #119 or #133)
#135.	#39 or #47 or #64 or #82 or #134

CINAHL (EBSCO) search terms

S1.	MH Palliative care
S2.	MH Terminal care
S3.	MH Hospice care
S4.	TI palliat* OR AB palliat*
S5.	MW Terminally ill
S6.	TI (terminal* or long term or longterm) AND TI (care* or caring or ill*)
S7.	AB (terminal* or long term or longterm) AND AB (care* or caring or ill*)
S8.	TI (dying or terminal) AND TI (phase* or stage*)
S9.	AB (dying or terminal) AND AB (phase* or stage*)
S10.	TI life limit* OR AB life limit*
S11.	MH Nursing homes
S12.	TI (care or nursing) AND TI (home or homes)
S13.	AB (care or nursing) AND AB (home or homes)
S14.	MH Respite care
S15.	TI (respite or day) AND TI (care or caring)
S16.	AB (respite or day) AND AB (care or caring)
S17.	MH Hospices
S18.	TI Hospice* OR AB Hospice*
S19.	(MH "Patient Care Plans")
S20.	MH Attitude to Death
S21.	TI attitude* AND TI (death* or dying)
S22.	AB attitude* AND AB (death* or dying)
S23.	MH Physician-Patient Relations
S24.	(MH "Long Term Care")
S25.	(MH "Health Care Delivery")
S26.	TI end AND TI life OR AB end AND AB life
S27.	TI EOLC OR AB EOLC
S28.	TI (last or final) AND TI (year or month) AND TI life
S29.	AB (last or final) AND AB (year or month) AND AB life
S30.	TI (dying or death) AND TI (patient* or person* or people or care or caring)
S31.	AB (dying or death) AND AB (patient* or person* or people or care or caring)
S32.	TI advance* AND TI (plan* or decision* or directive*)
S33.	AB advance* AND AB (plan* or decision* or directive*)

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S34.	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33
S35.	(MH "Multidisciplinary Care Team+")
S36.	MDT OR IDT
S37.	((interdisciplin* or inter-disciplin* or interprofession* or inter-profession* or multidisciplin* or multi-disciplin* or multi-profession* or multiprofession* or transprofession* or trans-profession*) n2 (team* or staff* or meeting* or manag* or appointment* or system* or program* or practic* or advic* or advis* or caring or intervention* or ward* or round* or panel* or forum* or fora or communicat* or collaborat* or relat*))
S38.	((integrat* or network*) n2 (team* or staff* or meeting* or manag* or appointment* or system* or program* or practic* or advic* or advis* or caring or intervention* or ward* or round* or panel* or forum* or fora or communicat* or collaborat* or relat*))
S39.	TI (key n2 work*) OR AB (key n2 work*)
S40.	TI (((healthcare or care) n2 (lead or leader or leads or facilitat*))) OR AB (((healthcare or care) n2 (lead or leader or leads or facilitat*)))
S41.	TI (((healthcare or care) n1 profession*)) OR AB (((healthcare or care) n1 profession*))
S42.	MH Case Management
S43.	TI (case n2 manage*) OR AB (case n2 manage*)
S44.	TI ((co-ordinator* or coordinator* or coordinate* or co-ordinate*)*)) OR AB ((co-ordinator* or coordinator* or coordinate* or co-ordinate*))
S45.	S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44
S46.	S34 AND S45
S47.	MeSH descriptor: [Interdisciplinary Communication] explode all trees
S48.	MeSH descriptor: [Communication Barriers] explode all trees
S49.	(communicat* or discuss* or speak* or talk* or convers* or contact):ti,ab
S50.	((handover or hand over or share or shared or sharing or transfer*) near/3 information*):ti,ab
S51.	(followup or follow up):ti,ab
S52.	(palliativ* near/2 (care or caring)):ti,ab
S53.	S47 OR S48 OR S49 OR S50 OR S51 OR S52
S54.	S34 AND S45 AND S53
S55.	TI commission* AND TI ((support* or service* or model*))
S56.	AB commission* AND AB ((support* or service* or model*))
S57.	TI (service* or program* or co-ordinat* or co ordinat* or coordinat*) AND TI (model* or deliver* or strateg* or support* or access* or method* or system* or policies or policy or availab*)
S58.	AB (service* or program* or co-ordinat* or co ordinat* or coordinat*) AND AB (model* or deliver* or strateg* or support* or access* or method* or system* or policies or policy or availab*)
S59.	TI (critical or clinic* or service* or care) AND TI path*
S60.	AB (critical or clinic* or service* or care) AND AB path*
S61.	TI care AND TI (bundle* or service* or package* or standard*)
S62.	AB care AND AB (bundle* or service* or package* or standard*)
S63.	S55 OR S56 OR S57 OR S58 OR S59 OR S60 OR S61 OR S62
S64.	TI (assess* or criteria* or predict* or recogni* or identif* or refer*) OR AB (assess* or criteria* or predict* or recogni* or identif* or refer*)

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S65.	S34 AND S63 AND S64
S66.	TI gold standard* OR AB gold standard*
S67.	S34 AND S66
S68.	TI amber AND TI bundle
S69.	AB amber AND AB bundle
S70.	S68 OR S69
S71.	S65 OR S67 OR S70
S72.	TI advance* AND TI (plan* or decision* or directive*)
S73.	AB advance* AND AB (plan* or decision* or directive*)
S74.	S72 OR S73
S75.	(MM "Social Welfare")
S76.	(MH "Charities")
S77.	(MM "Adult Day Center (Saba CCC)") OR (MM "Housing for the Elderly") OR (MM "Older Adult Care (Saba CCC)")
S78.	(MH "Community Health Nursing+") OR (MM "Community Health Centers")
S79.	(MH "Home Health Care+") OR (MM "Home Health Aides") OR (MM "Home Health Care Information Systems") OR (MM "Home Health Aide Service (Saba CCC)")
S80.	(MM "Housing for the Elderly") OR (MM "Rural Health Centers") OR (MM "Community Health Centers")
S81.	(MH "Telemedicine+") OR (MH "Telehealth+")
S82.	(MM "Remote Consultation") OR (MM "Telephone Consultation (Iowa NIC)") OR (MM "Services for Australian Rural and Remote Allied Health")
S83.	telehealth or tele health or virtual hospital* or helpline* or help line* or rapid response team* or senior center*
S84.	(MM "Rural Health Personnel") OR (MM "Mobile Health Units")
S85.	remote consultation
S86.	((community based or community dwelling home or rural) n3 (care or health care or healthcare))
S87.	hospital-based home care or HBHC or hospital-based hospice care or acute hospital care
S88.	((hospitali?ation* or admission* or readmission* or admit*) n3 (reduc* or avoid* or prevent* or inappropiate or increase* or risk*))
S89.	home based versus hospital based
S90.	(hospital n3 (domicil* or home))
S91.	home hospitali?ation
S92.	home care service*
S93.	(MM "Home Health Agencies") OR (MM "Nursing Home Personnel")
S94.	(MM "Homemaker Services") OR (MM "Health Services for the Aged")
S95.	(MH "Home Health Care+") OR (MM "Home Care Equipment and Supplies") OR (MH "Nursing Homes") OR (MM "National Association for Home Care & Hospice") OR (MM "Nursing Home Patients")
S96.	social care
S97.	(MM "Hospitals, Community")
S98.	(MM "Home Nursing") OR (MM "Home Nursing, Professional")
S99.	(nurs* n4 (home-visit* or home visit* or home-based or home based))
S100.	((district* or communit* or home or visit*) n nurs*)
S101.	S75 OR S76 OR S77 OR S78 OR S79 OR S80 OR S81 OR S82 OR S83 OR S84 OR S85 OR S86 OR S87 OR S88 OR S89 OR S90 OR S91 OR S92 OR S93 OR S94 OR S95 OR S96 OR S97 OR S98 OR S99 OR S100

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S102.	MH Continuity of Patient Care OR MH Aftercare OR MH Patient discharge OR MH Patient handoff OR MH Patient transfer OR MH Transitional care
S103.	(MM "Discharge Planning") OR (MM "Patient Discharge Summaries")
S104.	TI (((patient* or person* or people or nursing* or clinic*)) AND TX ((discharg* or handover* or hand* over* or handoff* or hand off* or signout* or sign* out* or signover* or sign* over*))
S105.	AB (((patient* or person* or people or nursing* or clinic*)) AND AB ((discharg* or handover* or hand* over* or handoff* or hand off* or signout* or sign* out* or signover* or sign* over*))
S106.	AB ((care or caring or serv*)) AND AB ((continu* or change* or transition* or transfer*))
S107.	TI ((care or caring or serv*)) AND TI ((continu* or change* or transition* or transfer*))
S108.	TI discharg* AND TI (facilitat* or rapid* or pathway* or path way* or plan* or program*))
S109.	AB discharg* AND AB (facilitat* or rapid* or pathway* or path way* or plan* or program*))
S110.	S102 OR S103 OR S104 OR S105 OR S106 OR S107 OR S108 OR S109
S111.	out of hours care
S112.	((morning* or evening* or weekday or weekend* or 7 day or seven day or seven-day or after-hour* or 24 hour* or 24hour* or twenty-four-hour* or out-of-hour* or 9-5 or Monday-Friday or Saturday or Sunday) n3 (service* or access* or availab* or hour* or appointment* or care or caring or palliativ* or pharmacy* or telephone* or advic* or advis* or consult* or support* or nurs* or speciali* or physician* or doctor* or expert* or professional* or paramedic* or general practioner* or GP* or social worker* or case worker* or ambulance* or health worker* or physiotherapist* or therapist*))
S113.	rapid response
S114.	(critical care n2 outreach) OR medical emergency team* OR (hospital* n2 home*) OR hospital at night
S115.	NHS 111 OR NHS 24 OR NHS Direct
S116.	(MH "Telemedicine") OR (MH "Telehealth")
S117.	(telehealth* or tele-health* or telemedicine* or tele-medicine* or teleconsult* or tele-consult* or tele-monitor* or telemonitor* or telemanag* or tele-manag* or telepharm* or tele-pharm* or telenurs* or tele-nurs* or tele-homecare or telehomecare or tele-support or telesupport or mobile health or ehealth or e-health or mhealth or m-health)
S118.	(MH "Telephone Information Services")
S119.	(hotline* or helpline* or help-line* or call cent* or call service*)
S120.	((email* or e-mail* or telephone* or phone* or video*) n3 (servic* or advic* or advis* or consult* or support* or care* or caring* or appoint*))
S121.	S111 OR S112 OR S113 OR S114 OR S115 OR S116 OR S117 OR S118 OR S119 OR S120
S122.	S34 AND (S74 OR S101 OR S110 OR S121)
S123.	S46 OR S54 OR S71 OR S122

PsycINFO (ProQuest) search terms

1.	(ti,ab(commission* NEAR/2 (support* OR service* OR model*)) OR ((service* OR program* OR co-ordinat* OR coordinat*) NEAR/2 (model* OR deliver* OR strateg* OR support* OR access* OR method* OR system* OR policies OR policy OR availab*))) AND (SU.EXACT("Palliative Care") OR SU.EXACT("Terminally Ill Patients") OR SU.EXACT("Hospice") OR ti,ab(palliat*) OR ti,ab((terminal* OR long-term OR longterm) NEAR/2 (care* OR caring OR ill*)) OR ti,ab((dying OR terminal) NEAR/1 (phase* OR stage*)) OR ti,ab(life-limit*) OR SU.EXACT("Nursing Homes") OR ti,ab((care OR nursing) NEAR/2 (home OR homes)) OR SU.EXACT("Respite Care") OR ti,ab((respite OR day) NEAR/2 (care OR caring)) OR ti,ab(hospice*) OR MJSUB.EXACT("Treatment Planning") OR MJSUB.EXACT("Continuum of Care") OR

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	ti,ab((advance* OR patient*) NEAR/3 (care OR caring) NEAR/3 (continu* OR plan*)) OR MJSUB.EXACT("Long Term Care") OR ti,ab(attitude* NEAR/3 (death* OR dying*)) OR ti,ab(end NEAR/2 life) OR ti,ab(EOLC) OR ti,ab((last OR final) NEAR/2 (year OR month*) NEAR/2 life) OR ti,ab((dying OR death) NEAR/2 (patient* OR person* OR people OR care OR caring)))
2.	Adolescence (13-17 Yrs), Adulthood (18 Yrs & Older), Aged (65 Yrs & Older), Middle Age (40-64 Yrs), Thirties (30-39 Yrs), Very Old (85 Yrs & Older), Young Adulthood (18-29 Yrs)
3.	1 and 2
4.	Conference Proceedings, Journal Article, Peer Reviewed Journal
5.	3 and 4

HMIC (Ovid) search terms

1.	exp End of life care/
2.	(terminal* adj ill*).ti,ab.
3.	((dying or terminal) adj (phase* or stage*)).ti,ab.
4.	life limit*.ti,ab.
5.	(end adj2 life).ti,ab.
6.	EOLC.ti,ab.
7.	((last or final) adj2 (year or month*) adj2 life).ti,ab.
8.	((dying or death) adj2 (patient* or person* or people or care or caring)).ti,ab.
9.	or/2-8
10.	(exp child/ or exp Paediatrics/ or exp infant/) not (exp adolescent/ or exp adult/ or exp middle age/ or exp older people/)
11.	9 not 10
12.	limit 11 to English
13.	limit 12 to (audiovis or book or chapter dh helmis or circular or microfiche dh helmis or multimedias or website)
14.	limit 12 to (audiocass or books or cdrom or chapter or dept pubs or diskettes or folio pamp or "map" or marc or microfiche or multimedia or pamphlet or parly or press or press rel or thesis or trustdoc or video or videos or website)
15.	13 or 14
16.	12 not 15
17.	euthanasia/
18.	euthanasia.ti,ab.
19.	17 or 18
20.	16 not 19

SPP (Ovid) search terms

1.	palliat*.ti,ab.
2.	((dying or terminal) adj (phase* or stage*)).ti,ab.
3.	life limit*.ti,ab.
4.	hospice*.ti,ab.
5.	(advance* adj2 (plan* or decision* or directive*)).ti,ab.
6.	living will*.ti,ab.
7.	((advance* or patient*) adj3 (care or caring) adj3 (continu* or plan*)).ti,ab.
8.	(attitude* adj3 (death* or dying*)).ti,ab.
9.	(end adj2 life).ti,ab.
10.	EOLC.ti,ab.

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11.	((last or final) adj2 (year or month*) adj2 life).ti,ab.
12.	((dying or death) adj2 (patient* or person* or people or care or caring)).ti,ab.
13.	(nursing adj2 (home or homes)).ti,ab.
14.	(terminal* adj2 ill*).ti,ab.
15.	(respite adj2 (care or caring)).ti,ab.
16.	or/1-15
17.	(child* or infant*).ti,ab.
18.	(adult* or adolescent*).ti,ab.
19.	17 not 18
20.	16 not 19
21.	limit 20 to (journal or journal article or online resource or online report or report)

ASSIA (ProQuest) search terms

1.	palliat*.ti,ab. ((ti,ab(commission* N/2 (support* or service* or model*)) OR ti,ab((service* or program* or co-ordinat* or coordinat*) N/2 (model* or deliver* or strateg* or support* or access* or method* or system* or policies or policy or availab*))) AND ((SU.EXACT("Care" OR "Clinical nursing" OR "Community homes" OR "Community nursery nursing" OR "Community nursing" OR "Compassionate care" OR "Continuing care" OR "District nursing" OR "Family centred care" OR "Geriatric wards" OR "Group care" OR "Health visiting" OR "Home care" OR "Home from home care" OR "Home health aides" OR "Home helps" OR "Hospices" OR "Hostel wards" OR "Informal care" OR "Integrated care pathways" OR "Intentional care" OR "Intermediate care" OR "Intermediate care centres" OR "Lack of care" OR "Learning disability nursing" OR "Length of stay" OR "Liaison nursing" OR "Long stay wards" OR "Long term care" OR "Long term home care" OR "Long term residential care" OR "Nurse led care" OR "Nursing" OR "Occupational health nursing" OR "Ontological care" OR "Out of home care" OR "Outreach nursing" OR "Palliative care" OR "Paranursing" OR "Pastoral care" OR "Patient care" OR "Primary nursing" OR "Private residential care" OR "Process centred care" OR "Quality of care" OR "Radical health visiting" OR "Residential care" OR "Residential group care" OR "Respite care" OR "Shared care" OR "Social care" "Temporary care" OR "Terminal care" OR "Wards") OR (SU.EXACT("Terminally ill elderly people") OR SU.EXACT("Terminally ill fathers") OR SU.EXACT("Terminally ill elderly men") OR SU.EXACT("Terminally ill elderly women") OR SU.EXACT("Terminally ill young adults") OR SU.EXACT("Terminally ill parents") OR SU.EXACT("Terminally ill women") OR SU.EXACT("Terminally ill widowed sisters") OR SU.EXACT("Terminally ill colleagues") OR SU.EXACT("Terminally ill young girls") OR SU.EXACT("Terminally ill people") OR SU.EXACT("Terminally ill men")) OR SU.EXACT("Advance directives" OR "Do not resuscitate orders" OR "Durable power of attorney for health care" OR "Living wills" OR "Treatment preferences" OR "Treatment needs")) OR (ti,ab((advance* or patient*) N/3 (care or caring) N/3 (continu* or plan*)) or ti,ab(attitude* N/3 (death* or dying*)) or ti,ab(end N/2 life) or ti,ab(EOLC) or ti,ab((last or final) N/2 (year or month*) N/2 life) or ti,ab((dying or death) N/2 (patient* or person* or people or care or caring))))) OR SU.EXACT("End of life decisions")

B.2 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to end of life care in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA) with no date restrictions. NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional searches were run on Medline and Embase for health economics, economic modelling and quality of life studies.

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Table 18: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2014 – 04 January 2019	Exclusions Health economics studies Health economics modelling studies Quality of life studies
Embase	2014 – 04 January 2019	Exclusions Health economics studies Health economics modelling studies Quality of life studies
Centre for Research and Dissemination (CRD)	HTA - Inception – 04 January 2019 NHSEED - Inception to March 2015	None

Medline (Ovid) search terms

1.	Palliative care/
2.	Terminal care/
3.	Hospice care/
4.	palliat*.ti,ab.
5.	Terminally Ill/
6.	((terminal* or long term or longterm) adj2 (care* or caring or ill*)).ti,ab.
7.	((dying or terminal) adj (phase* or stage*)).ti,ab.
8.	life limit*.ti,ab.
9.	Nursing Homes/
10.	((care or nursing) adj2 (home or homes)).ti,ab.
11.	Respite Care/
12.	((respite or day) adj2 (care or caring)).ti,ab.
13.	Hospices/
14.	hospice*.ti,ab.
15.	exp Advance Care Planning/
16.	(advance* adj2 (plan* or decision* or directive*)).ti,ab.
17.	living will*.ti,ab.
18.	*Patient care planning/
19.	*"Continuity of Patient Care"/
20.	((advance* or patient*) adj3 (care or caring) adj3 (continu* or plan*)).ti,ab.
21.	*Attitude to Death/
22.	(attitude* adj3 (death* or dying*)).ti,ab.
23.	*Physician-Patient Relations/
24.	*Long-Term Care/
25.	*"Delivery of Health Care"/
26.	(end adj2 life).ti,ab.
27.	EOLC.ti,ab.
28.	((last or final) adj2 (year or month*) adj2 life).ti,ab.

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29.	((dying or death) adj2 (patient* or person* or people or care or caring)).ti,ab.
30.	or/1-29
31.	letter/
32.	editorial/
33.	news/
34.	exp historical article/
35.	Anecdotes as Topic/
36.	comment/
37.	case report/
38.	(letter or comment*).ti.
39.	or/31-38
40.	randomized controlled trial/ or random*.ti,ab.
41.	39 not 40
42.	animals/ not humans/
43.	exp Animals, Laboratory/
44.	exp Animal Experimentation/
45.	exp Models, Animal/
46.	exp Rodentia/
47.	(rat or rats or mouse or mice).ti.
48.	or/41-47
49.	30 not 48
50.	limit 49 to English language
51.	(exp child/ or exp pediatrics/ or exp infant/) not (exp adolescent/ or exp adult/ or exp middle age/ or exp aged/)
52.	50 not 51
53.	economics/
54.	value of life/
55.	exp "costs and cost analysis"/
56.	exp Economics, Hospital/
57.	exp Economics, medical/
58.	Economics, nursing/
59.	economics, pharmaceutical/
60.	exp "Fees and Charges"/
61.	exp budgets/
62.	budget*.ti,ab.
63.	cost*.ti.
64.	(economic* or pharmaco?economic*).ti.
65.	(price* or pricing*).ti,ab.
66.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
67.	(financ* or fee or fees).ti,ab.
68.	(value adj2 (money or monetary)).ti,ab.
69.	or/53-68
70.	exp models, economic/
71.	*Models, Theoretical/
72.	*Models, Organizational/

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73.	markov chains/
74.	monte carlo method/
75.	exp Decision Theory/
76.	(markov* or monte carlo).ti,ab.
77.	econom* model*.ti,ab.
78.	(decision* adj2 (tree* or analy* or model*)).ti,ab.
79.	or/70-78
80.	quality-adjusted life years/
81.	sickness impact profile/
82.	(quality adj2 (wellbeing or well being)).ti,ab.
83.	sickness impact profile.ti,ab.
84.	disability adjusted life.ti,ab.
85.	(qal* or qtime* or qwb* or daly*).ti,ab.
86.	(euroqol* or eq5d* or eq 5*).ti,ab.
87.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
88.	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
89.	(hui or hui1 or hui2 or hui3).ti,ab.
90.	(health* year* equivalent* or hye or hyes).ti,ab.
91.	discrete choice*.ti,ab.
92.	rosser.ti,ab.
93.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
94.	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
95.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
96.	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
97.	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
98.	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
99.	or/80-98
100.	52 and (69 or 79 or 99)

Embase (Ovid) search terms

1.	*Palliative therapy/
2.	*Terminal care/
3.	*Hospice care/
4.	palliat*.ti,ab.
5.	*Terminally ill patient/
6.	((terminal* or long term or longterm) adj2 (care* or caring or ill*)).ti,ab.
7.	((dying or terminal) adj (phase* or stage*)).ti,ab.
8.	life limit*.ti,ab.
9.	*Nursing home/
10.	((care or nursing) adj2 (home or homes)).ti,ab.
11.	*Respite Care/
12.	((respite or day) adj2 (care or caring)).ti,ab.
13.	*Hospice/
14.	hospice*.ti,ab.

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15.	*Patient care planning/
16.	(advance* adj2 (plan* or decision* or directive*)).ti,ab.
17.	living will*.ti,ab.
18.	*Patient care/
19.	((advance* or patient*) adj3 (care or caring) adj3 (continu* or plan*)).ti,ab.
20.	*Attitude to Death/
21.	(attitude* adj3 (death* or dying*)).ti,ab.
22.	*Doctor patient relation/
23.	*Long term care/
24.	*Health care delivery/
25.	(end adj2 life).ti,ab.
26.	EOLC.ti,ab.
27.	((last or final) adj2 (year or month*) adj2 life).ti,ab.
28.	((dying or death) adj2 (patient* or person* or people or care or caring)).ti,ab.
29.	or/1-28
30.	letter.pt. or letter/
31.	note.pt.
32.	editorial.pt.
33.	case report/ or case study/
34.	(letter or comment*).ti.
35.	or/30-34
36.	randomized controlled trial/ or random*.ti,ab.
37.	35 not 36
38.	animal/ not human/
39.	nonhuman/
40.	exp Animal Experiment/
41.	exp Experimental Animal/
42.	animal model/
43.	exp Rodent/
44.	(rat or rats or mouse or mice).ti.
45.	or/37-44
46.	29 not 45
47.	limit 46 to English language
48.	(exp child/ or exp pediatrics/ or exp infant/) not (exp adolescent/ or exp adult/ or exp middle age/ or exp aged/)
49.	47 not 48
50.	health economics/
51.	exp economic evaluation/
52.	exp health care cost/
53.	exp fee/
54.	budget/

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55.	funding/
56.	budget*.ti,ab.
57.	cost*.ti.
58.	(economic* or pharmaco?economic*).ti.
59.	(price* or pricing*).ti,ab.
60.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
61.	(financ* or fee or fees).ti,ab.
62.	(value adj2 (money or monetary)).ti,ab.
63.	or/50-62
64.	statistical model/
65.	exp economic aspect/
66.	64 and 65
67.	*theoretical model/
68.	*nonbiological model/
69.	stochastic model/
70.	decision theory/
71.	decision tree/
72.	monte carlo method/
73.	(markov* or monte carlo).ti,ab.
74.	econom* model*.ti,ab.
75.	(decision* adj2 (tree* or analy* or model*)).ti,ab.
76.	or/66-75
77.	quality-adjusted life years/
78.	"quality of life index"/
79.	short form 12/ or short form 20/ or short form 36/ or short form 8/
80.	sickness impact profile/
81.	(quality adj2 (wellbeing or well being)).ti,ab.
82.	sickness impact profile.ti,ab.
83.	disability adjusted life.ti,ab.
84.	(qal* or qtime* or qwb* or daly*).ti,ab.
85.	(euroqol* or eq5d* or eq 5*).ti,ab.
86.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
87.	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
88.	(hui or hui1 or hui2 or hui3).ti,ab.
89.	(health* year* equivalent* or hye or hyes).ti,ab.
90.	discrete choice*.ti,ab.
91.	rosser.ti,ab.
92.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
93.	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
94.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.

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95.	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
96.	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
97.	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
98.	or/77-97
99.	49 and (63 or 76 or 98)

NHS EED and HTA (CRD) search terms

#1.	MeSH DESCRIPTOR Palliative Care IN NHSEED,HTA
#2.	MeSH DESCRIPTOR Terminal Care IN NHSEED,HTA
#3.	MeSH DESCRIPTOR Hospice Care IN NHSEED,HTA
#4.	(palliat*) IN NHSEED, HTA
#5.	MeSH DESCRIPTOR Terminally Ill IN NHSEED,HTA
#6.	(((terminal* or long term or longterm) adj2 (care* or caring or ill*))) IN NHSEED, HTA
#7.	(((dying or terminal) adj (phase* or stage*))) IN NHSEED, HTA
#8.	(life limit*) IN NHSEED, HTA
#9.	MeSH DESCRIPTOR Nursing Homes IN NHSEED,HTA
#10.	(((care or nursing) adj2 (home or homes))) IN NHSEED, HTA
#11.	MeSH DESCRIPTOR Respite Care IN NHSEED,HTA
#12.	(((respite or day) adj2 (care or caring))) IN NHSEED, HTA
#13.	MeSH DESCRIPTOR Hospices IN NHSEED,HTA
#14.	(hospice*) IN NHSEED, HTA
#15.	MeSH DESCRIPTOR Advance Care Planning EXPLODE ALL TREES IN NHSEED,HTA
#16.	((advance* adj2 (plan* or decision* or directive*))) IN NHSEED, HTA
#17.	(living will*) IN NHSEED, HTA
#18.	MeSH DESCRIPTOR Patient Care Planning IN NHSEED,HTA
#19.	MeSH DESCRIPTOR Continuity of Patient Care IN NHSEED,HTA
#20.	(((advance* or patient*) adj3 (care or caring) adj3 (continu* or plan*))) IN NHSEED, HTA
#21.	MeSH DESCRIPTOR Attitude to Death IN NHSEED,HTA
#22.	((attitude* adj3 (death* or dying*))) IN NHSEED, HTA
#23.	MeSH DESCRIPTOR Physician-Patient Relations IN NHSEED,HTA
#24.	MeSH DESCRIPTOR Long-Term Care IN NHSEED,HTA
#25.	MeSH DESCRIPTOR Delivery of Health Care IN NHSEED,HTA
#26.	((end adj2 life)) IN NHSEED, HTA
#27.	(EOLC) IN NHSEED, HTA
#28.	(((last or final) adj2 (year or month*) adj2 life)) IN NHSEED, HTA
#29.	(((dying or death) adj2 (patient* or person* or people or care or caring))) IN NHSEED, HTA
#30.	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29
#31.	(#30) IN NHSEED
#32.	(#30) IN HTA

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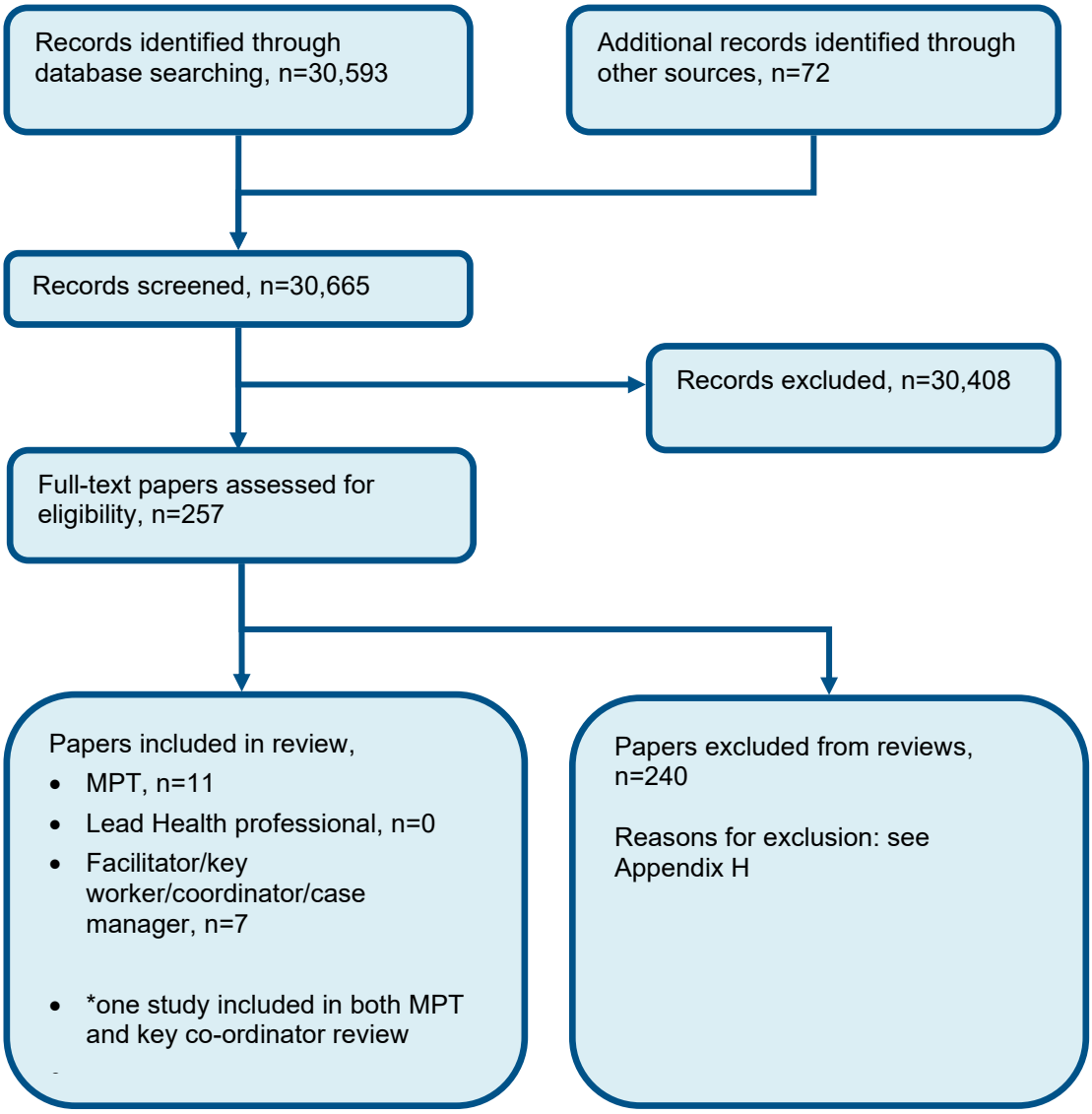
Appendix C: Clinical evidence selection

Figure 1: Flow chart of clinical study selection for the review of what is the best composition of a multiprofessional team to facilitate the continuity and coordination of care for people who are in their last year of life



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Appendix D: Clinical evidence tables

Study	Brumley 2003[36]
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=297)
Countries and setting	Conducted in USA; Setting: Southern California TriCentral Service Hospice
Line of therapy	Not applicable
Duration of study	Intervention + follow up: 2 years (September 2002-March 2004)
Method of assessment of guideline condition	Adequate method of assessment/diagnosis: Physicians are asked to refer any patient to the TCPC Program if the physician 'would not be surprised if this patient died in the next year'
Stratum	Adults (aged 18 years or over).
Subgroup analysis within study	Not applicable
Inclusion criteria	Kaiser Permanente (KP) hospice homebound patients who had a diagnosis of a life threatening disease, primarily Chronic obstructive pulmonary disease (COPD), Chronic heart failure (CHF), or cancer; two or more emergency department visits or hospital admissions in the past year, and limited life expectancy (not more than approximately one year to live)
Exclusion criteria	Not stated
Recruitment/selection of patients	Referrals originate from many sources, including physicians, discharge planners, home health nurses, and social workers
Age, gender and ethnicity	Age - Other: Not stated. Gender (M:F): Not stated. Ethnicity: 18% Asian/Pacific Islanders, 13% Hawaiian, 4% Latino, 2% other
Further population details	1. Any specific population:
Extra comments	.
Indirectness of population	No indirectness
Interventions	(n=210) Intervention 1: Multiprofessional team service. The TriCentral Palliative Care (TCPC) program is an interdisciplinary home-based program for patients at the end of life. The program offers enhanced pain control, symptom management and psychosocial support to improve quality of life. By blending palliative care and curative measures, the TCP program provides gradual transition for patients allowing them to retain their primary physician while receiving home visits from the palliative care team and physician. The program uses an interdisciplinary approach that focuses on the patient and family and in which care is provided by a core team consisting of a physician, nurse and social worker with expertise in pain control, other symptom

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Study	Brumley 2003[36]
	management and psychosocial intervention. Patients are assigned a palliative care physician who coordinates care from a variety of health care practitioners (including the patients' primary care physician), thus preventing service fragmentation. Home visits are provided by all team members (including physicians) to provide medical care, support and education as needed by patients and their caregivers. On-going care management to fill gaps in care is provided to ensure that the patients'' medical, social and spiritual needs are being met. Telephone support and afterhours visits are available 24/7, as needed by the patient. ACP that empowers patients and their family to make informed decisions and choices of care about EOLC is provided.. Duration 1.5 year. Concurrent medication/care: Usual primary care (n=348) Intervention 2: Usual care. Kaiser Permanente hospice patients who did not receive the TCPC program. Duration 1.5 year. Concurrent medication/care: Not stated.
Funding	Other (The study was funded by the Kaiser Permanente Garfield Memorial Fund)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: MULTIPROFESSIONAL PALLIATIVE CARE PROGRAM (TCPC) versus USUAL CARE

Protocol outcome 1: Number of hospital visits
- Actual outcome for Adults (aged 18 years or over): Hospital visits at end of follow-up; Group 1: mean 2.359 (SD 10.96); n=161, Group 2: mean 9.352 (SD 10.82); n=139; Risk of bias: All domain - Very high, Selection - Very high, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: Not reported; Group 1 Number missing: 51, Reason: did not die; Group 2 Number missing: 209, Reason: did not die

Protocol outcome 2: Number of visits to accident and emergency
- Actual outcome for Adults (aged 18 years or over): Emergency department visits at end of follow-up; Group 1: mean 0.93 (SD 2.51); n=161, Group 2: mean 2.297 (SD 0.92); n=139; Risk of bias: All domain - Very high, Selection - Very high, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: Not reported; Group 1 Number missing: 51, Reason: did not die; Group 2 Number missing: 209, Reason: did not die

Protocol outcome 3: Use of community services
- Actual outcome for Adults (aged 18 years or over): Physician visits at end of follow-up; Group 1: mean 5.335 (SD 13.97); n=161, Group 2: mean 11.089 (SD 13.81); n=139; Risk of bias: All domain - Very high, Selection - Very high, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: Not reported; Group 1 Number missing: 51, Reason: did not die; Group 2 Number missing: 209, Reason: did not die
- Actual outcome for Adults (aged 18 years or over): Skilled nursing care visits at end of follow-up; Group 1: mean 0.851 (SD 11); n=161, Group 2: mean 4.575 (SD 10.87); n=139; Risk of bias: All domain - Very high, Selection - Very high, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: Not reported; Group 1 Number missing: 51,

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Study	Brumley 2003[36]
Reason: did not die; Group 2 Number missing: 209, Reason: did not die - Actual outcome for Adults (aged 18 years or over): Total home health visits at end of follow-up; Group 1: mean 35.048 (SD 31.83); n=161, Group 2: mean 13.247 (SD 31.44); n=139; Risk of bias: All domain - Very high, Selection - Very high, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: Not reported; Group 1 Number missing: 51, Reason: did not die; Group 2 Number missing: 209, Reason: did not die Protocol outcome 4: Preferred and actual place of death - Actual outcome for Adults (aged 18 years or over): People dying at home at end of follow-up; Group 1: 138/159, Group 2: 79/139; Risk of bias: All domain - Very high, Selection - Very high, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: Serious indirectness, Comments: Preferred place of death not reported; Baseline details: Not reported; Group 1 Number missing: 51, Reason: did not die; Group 2 Number missing: 209, Reason: did not die	
Protocol outcomes not reported by the study	Quality of life; Hospitalisation; Number of unscheduled admissions; Length of survival; Staff satisfaction; Avoidable/inappropriate admissions to ICU; Inappropriate resuscitation; Patient/carer reported outcomes (satisfaction); Preferred and actual place of care; Length of stay

Study	Brumley 2007[34]
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=297)
Countries and setting	Conducted in USA; Setting: Two group-model, closed-panel, non-profit health maintenance organisations (HMOs) providing integrated healthcare services in Hawaii and Colorado. Colorado site (Denver): > 500 physicians (all medical specialties) in 16 separate ambulatory medical offices spread across a great metropolitan area; HMO contracts with outside providers for ED, hospital home health and hospice care. Hawaii site (Oahu): 18 medical offices, 317 medical group physicians; HMO provides all outpatient and most inpatient care (217-bed medical centre, internal home health agency); outside provider referral for hospice care.
Line of therapy	Not applicable
Duration of study	Intervention + follow up: 2 years (September 2002-March 2004)
Method of assessment of guideline condition	Adequate method of assessment/diagnosis: To determine life expectancy, the primary care physician care was asked, 'would you be surprised if this patient died in the next year?'. Patients with physician responses indicating no surprise if the patient died within the next year were included in the study
Stratum	Adults (aged 18 years or over)
Subgroup analysis within study	Stratified then randomised

Study	Brumley 2007[34]
Inclusion criteria	Patients eligible to participate in the study must have a primary diagnosis of chronic heart failure, chronic obstructive pulmonary disease or cancer and a life expectancy of 12 months or less, have visited the emergency department or hospital at least once within the previous year, and scored 70% or less on the Palliative Performance Scale (modified Karnofski scale ranking health condition from 0, death to 100, normal used to assess severity of illness).
Exclusion criteria	Not stated
Recruitment/selection of patients	Participants were enrolled and followed from September 2002 to August 2004. Discharge planners, primary care physicians, and other specialty physicians referred potentially eligible terminally ill patients to the study.
Age, gender and ethnicity	Age - Mean (SD): Intervention group 73.9 (11.1), control group 73.7 (13). Gender (M:F): Intervention group 80/65; control group 71/81. Ethnicity: 18% Asian/Pacific Islanders, 13% Hawaiian, 4% Latino, 2% other
Further population details	1. Any specific population:
Extra comments	Primary diagnosis in intervention (n=145) and control group (n=152), respectively: cancer 64, 74; CHF 45, 52; COPD 36, 26. Baseline characteristics (mean (SD)) in intervention (n=145) and control group (n=152), respectively: Palliative performance scale score 57.8 (13.1), 58.5 (12.0); satisfaction 40.8(5.2), 39.3 (6.2).
Indirectness of population	No indirectness
Interventions	(n=155) Intervention 1: Multiprofessional team service. The IHPC program is an interdisciplinary home-based program designed to provide treatment with the primary intent of enhancing comfort, managing symptoms and improving quality of life. The program uses an interdisciplinary team approach: core care team consists of patient and family, physician, nurse and a social worker with expertise in symptom management and bio-psychosocial intervention; responsible for coordinating and managing care across all settings and providing assessment, evaluation, planning, care delivery, follow up, monitoring and continuous reassessment of care. Upon admission, the team assesses the physical, medical, psychological, social and spiritual needs of the patient and family. All patients received initial assessments from physicians, nurses and social workers. Additional team members, including spiritual counsellor, or chaplain, bereavement, coordinator, home health aide, pharmacist, dietician, volunteer, physical therapist, occupational therapist, and speech therapist, join the core care team in service provision as needed. The team convenes to develop a care plan in accordance with the wishes of the patient and the family. Frequency of medical visits is based on individual needs of the patients. Physicians conduct home visits and are available along with nursing services on a 24-hrs on-call basis. In addition, advanced care planning is provided that involves patients and their families in making informed decisions and choices about care goals and EOLC. The team provides education, support and medical care to the patients and families. Additionally, patients and families are trained in the use of medications, self-management of skills and crisis intervention in the home with the goal of stabilising the patient and minimising excessive ED visits and acute care admissions. Duration 2 years. Concurrent medication/care: Customary and standard care within individual health benefit limits in addition to IHPC program.

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Study	Brumley 2007[34]
	(n=155) Intervention 2: Usual care. Standard care to meet the needs of the patients and followed Medicare guidelines for home healthcare criteria. These services included various amounts and levels of home health services, acute care services, primary care services and hospice care. Patients were treated for conditions and symptoms when they presented them to the attending physicians. Additionally, they received on-going home care when they met the Medicare-certified criteria for an acute condition. Duration 2 years. Concurrent medication/care: Not stated.
Funding	Other (The study was funded by the Kaiser Permanente Garfield Memorial Fund)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: MULTIPROFESSIONAL IN-HOUSE PALLIATIVE CARE TEAM SERVICE versus USUAL CARE

Protocol outcome 1: Hospitalisation
- Actual outcome for Adults (aged 18 years or over): People hospitalised at end of follow-up; Group 1: 52/145, Group 2: 94/152; Risk of bias: All domain - High, Selection - High, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: No significant differences between groups in baseline measures other than satisfaction (those randomised to intervention demonstrated significantly higher satisfaction with services at baseline than those assigned to usual care); Group 1 Number missing: 10, Reason: 2 withdrew from study, 8 died before intervention; Group 2 Number missing: 3, Reason: 3 withdrew from study

Protocol outcome 2: Number of visits to accident and emergency
- Actual outcome for Adults (aged 18 years or over): People accessing emergency department at end of follow-up; Group 1: 29/145, Group 2: 50/152; Risk of bias: All domain - High, Selection - High, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: Serious indirectness, Comments: People accessing service, not n of visits; Baseline details: No significant differences between groups in baseline measures other than satisfaction (those randomised to intervention demonstrated significantly higher satisfaction with services at baseline than those assigned to usual care); Group 1 Number missing: 10, Reason: 2 withdrew from study, 8 died before intervention; Group 2 Number missing: 3, Reason: 3 withdrew from study

Protocol outcome 3: Use of community services
- Actual outcome for Adults (aged 18 years or over): People enrolled in hospice at end of follow-up; Group 1: 36/145, Group 2: 55/152; Risk of bias: All domain - High, Selection - High, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: No significant differences between groups in baseline measures other than satisfaction (those randomised to intervention demonstrated significantly higher satisfaction with services at baseline than those assigned to usual care); Group 1 Number missing: 10, Reason: 2 withdrew from study, 8 died before intervention; Group 2 Number missing: 3, Reason: 3 withdrew from study

Protocol outcome 4: Preferred and actual place of death
- Actual outcome for Adults (aged 18 years or over): People dying at home at end of follow-up; OR 2.2 (95%CI 1.3 to 3.7) (75% (n=223) of people

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Study	Brumley 2007[34]
included in the final analysis died during the study period; for 98% (n=219) of these site of death data was available. Intervention group: 71% died at home; control group: 51% died at home. OR data: controlling for age, survival time and medical condition); Risk of bias: All domain - High, Selection - High, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: Serious indirectness, Comments: Preferred place of death not reported; Baseline details: No significant differences between groups in baseline measures other than satisfaction (those randomised to intervention demonstrated significantly higher satisfaction with services at baseline than those assigned to usual care); Protocol outcome 5: Length of survival - Actual outcome for Adults (aged 18 years or over): Survival after enrolment at end of follow-up; Group 1: mean 196 (SD 164); n=145, Group 2: mean 242 (SD 200); n=152; Risk of bias: All domain - High, Selection - High, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: No significant differences between groups in baseline measures other than satisfaction (those randomised to intervention demonstrated significantly higher satisfaction with services at baseline than those assigned to usual care); Protocol outcome 6: Patient/carer reported outcomes (satisfaction) - Actual outcome for Adults (aged 18 years or over): Satisfaction with care at 90 days; OR 3.37 (95%CI 0.65 to 4.96); Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - High, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: No significant differences between groups in baseline measures other than satisfaction (those randomised to intervention demonstrated significantly higher satisfaction with services at baseline than those assigned to usual care);	
Protocol outcomes not reported by the study	Quality of life; Number of hospital visits; Number of unscheduled admissions Define; Staff satisfaction; Avoidable/inappropriate admissions to ICU; Inappropriate resuscitation; Preferred and actual place of care; Length of stay

Study	Gade 2008[71]
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=517)
Countries and setting	Conducted in USA; Setting: San Francisco and Portland hospitals as part of a managed care organisation's MCO delivery system. Denver's community hospital had a contract with the MCO.
Line of therapy	Not applicable
Duration of study	Intervention time: 6 months
Method of assessment of guideline condition	Adequate method of assessment/diagnosis: Attending physician indicated they would not be surprised if the participant died within 1 year
Stratum	Adults (aged 18 years or over):

Study	Gade 2008[71]
Subgroup analysis within study	Not applicable
Inclusion criteria	Eligible patients were 18 or more years of age, hospitalised with at least one life-limiting diagnosis and whose attending physician indicated they would not be surprised if the patient died within 1 year.
Exclusion criteria	Patients were excluded if they had impaired cognitive status and no surrogate or were currently enrolled in hospice or other PC studies.
Recruitment/selection of patients	Referrals were received from all medical services and inpatients units, Monday-Friday
Age, gender and ethnicity	Age - Mean (SD): Intervention group:73.6 (12.6); 73.1(13.2). Gender (M:F): 229/283. Ethnicity:
Further population details	1. Any specific population: Not applicable
Extra comments	Characteristics at baseline for intervention and control group, respectively: quality of life, median (IQR) 4 (1,7), 4 (2,6); life limiting diagnosis, cancer n=64, n=95; chronic heart failure n=21, n=17; myocardial infarction n=3, n=6; other heart disease n=7, n=3; COPD n=31, n=35; other pulmonary disease n=3, n=3; ESRD n=10, n=2; organ failure n=29, n=28; stroke n=20, n=10; dementia n=8, n=13.
Indirectness of population	No indirectness
Interventions	(n=280) Intervention 1: Multiprofessional team service. Interdisciplinary inpatient palliative care consultative service (IPCS) included a palliative care physician and nurse, hospital social worker and chaplain. In Denver and Portland teams were newly formed, while in San Francisco the team had been operating for 1 year. All teams provided care in accordance with key palliative care components: assessment of patient knowledge and perception of disease, discussion of medical issues, assisting patient to identify personal goals for end of life care, assessment and management of physical symptoms, assessment and management of psychological, spiritual, and practical needs, assessment of discharge planning. The team met prior to each consultation to share what was known about the patient from the medical record, baseline questionnaire, and hospital providers. The entire team met with the patient/family to address symptoms, diagnosis, prognosis and goals of care. After the patient/family meeting, the team convened to synthesize a palliative care plan and organise follow-up. IPCS provided consultation on intervention patients to the attending involved subspecialists and staff on all aspects of PC. Team was available Mon-Fri but a PC physician was on call after hours. . Duration 6 months follow up. Concurrent medication/care: Not stated Comments: To ensure treatment consistency there were biweekly telephone conferences among the 3 sites to review cases and promote protocol adherence. (n=237) Intervention 2: Usual care. Usual hospital care. Duration 6 months follow up. Concurrent medication/care: Usual hospital care
Funding	Other (Garfield memorial fund)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: INPATIENT PALLIATIVE CARE CONSULTATIVE SERVICE versus

Study	Gade 2008[71]
USUAL CARE Protocol outcome 1: Quality of life - Actual outcome for Adults (aged 18 years or over): Self-reported quality of life at end of follow-up; Group 1: mean 6.4 (SD 2.3); n=199, Group 2: mean 6.3 (SD 2.1); n=191; Modified City of Hope Patient Questionnaire 0-10 Top=High is good outcome; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low, Comments - ; Indirectness of outcome: Serious indirectness, Comments: combined patient and proxy responses; Baseline details: There were no differences in any baseline measures between groups, except for the life-limiting diagnoses of stroke and end-stage renal disease.; Group 1 Number missing: 81, Reason: 5 withdrew their consent and were dropped from the study, 76 not stated; Group 2 Number missing: 46, Reason: 46 not stated Protocol outcome 2: Length of stay - Actual outcome for Adults (aged 18 years or over): Index hospitalization length of stay (days) at end of index hospitalisation; Risk of bias: Very high; Indirectness of outcome: No indirectness - Actual outcome for Adults (aged 18 years or over): Hospice length of stay (days) at end of follow-up; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Comments - Blinding/performance scores high also considering the difference in care delivery in different sites; Indirectness of outcome: No indirectness ; Baseline details: There were no differences in any baseline measures between groups, except for the life-limiting diagnoses of stroke and end-stage renal disease.; Group 1 Number missing: 5, Reason: 5 withdrew their consent and were dropped from the study; Group 2 Number missing: 0 Protocol outcome 3: Use of community services - Actual outcome for Adults (aged 18 years or over): Patients admitted to hospice at end of follow-up; Group 1: 103/275, Group 2: 96/237; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Comments - Blinding/performance scores high also considering the difference in care delivery in different sites; Indirectness of outcome: No indirectness ; Baseline details: There were no differences in any baseline measures between groups, except for the life-limiting diagnoses of stroke and end-stage renal disease.; Group 1 Number missing: 5, Reason: 5 withdrew their consent and were dropped from the study; Group 2 Number missing: 0 Protocol outcome 4: Length of survival - Actual outcome for Adults (aged 18 years or over): Survival from study enrolment (days) at end of follow-up; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Comments - Blinding/performance scores high also considering the difference in care delivery in different sites; Indirectness of outcome: No indirectness ; Baseline details: There were no differences in any baseline measures between groups, except for the life-limiting diagnoses of stroke and end-stage renal disease.; Group 1 Number missing: 5, Reason: 5 withdrew their consent and were dropped from the study; Group 2 Number missing: 0 - Actual outcome for Adults (aged 18 years or over): Survival from study enrolment for patients who did not die during index hospitalization (days) at end of follow-up; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Comments - Blinding/performance scores high also considering the difference in care delivery in different sites; Indirectness of outcome: No indirectness ; Baseline details: There were no differences in any baseline measures between groups, except for the life-limiting diagnoses of stroke and end-stage renal disease.; Group 1 Number missing: 5, Reason: 5 withdrew their consent and were dropped from the	

Study	Gade 2008[71]
study; Group 2 Number missing: 0 Protocol outcome 5: Patient/carer reported outcomes (satisfaction) - Actual outcome for Adults (aged 18 years or over): Place of care environment scale at end of follow-up; Group 1: mean 6.8 (SD 1); n=156, Group 2: mean 6.4 (SD 1.1); n=139; Place of care environment scale 0-10 Top=High is good outcome; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low, Comments - ; Indirectness of outcome: Serious indirectness, Comments: combined patient and proxy responses; Baseline details: There were no differences in any baseline measures between groups, except for the life-limiting diagnoses of stroke and end-stage renal disease.; Group 1 Number missing: 119, Reason: 5 withdrew their consent and were dropped from the study, 119 not stated; Group 2 Number missing: 98, Reason: 98 not stated- Actual outcome for Adults (aged 18 years or over): Doctors, nurses/other health care provider communication scale at end of follow-up; Group 1: mean 8 (SD 1.4); n=185, Group 2: mean 7.4 (SD 1.7); n=156; Doctor, nurses/other health care professional providers 0-10 Top=High is good outcome; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low, Comments - ; Indirectness of outcome: Serious indirectness, Comments: combined patient and proxy responses; Baseline details: There were no differences in any baseline measures between groups, except for the life-limiting diagnoses of stroke and end-stage renal disease.; Group 1 Number missing: 95, Reason: 5 withdrew their consent and were dropped from the study, 90 not stated; Group 2 Number missing: 81, Reason: 81 not stated	
Protocol outcomes not reported by the study	Number of hospital visits; Number of visits to accident and emergency; Number of unscheduled admissions; Preferred and actual place of death; Staff satisfaction at; Avoidable/inappropriate admissions to ICU; Inappropriate resuscitation; Preferred and actual place of care; Hospitalisation

Study	imPaCT study trial: Hanks 2002[86]
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=261)
Countries and setting	Conducted in United Kingdom
Line of therapy	Not applicable
Duration of study	Intervention + follow up: 4 weeks
Method of assessment of guideline condition	Method of assessment /diagnosis not stated: Does not specifically mention last year of life but was palliative care and 36% and 45% were dead by 4 weeks.
Stratum	Overall
Subgroup analysis within study	Not applicable
Inclusion criteria	Initially only patients with cancer were included, but following a pilot study, all diagnostic groups were admitted.

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Study	imPaCT study trial: Hanks 2002[86]
Exclusion criteria	Unable to give informed consent; were not well enough to undertake the baseline assessment; were not aware of their diagnosis; were likely to die or be discharged within 24 hours, or needed advice very urgently.
Recruitment/selection of patients	All new inpatient referrals to the PCT were assessed for entry into the study.
Age, gender and ethnicity	Age - Mean (range): 68.4 (26-93); 67.5 (18-95). Gender (M:F): 142/119. Ethnicity: Not reported.
Further population details	1. Any specific population:
Indirectness of population	No indirectness
Interventions	(n=175) Intervention 1: Multiprofessional team service. The full PCT service: this was the usual service delivered by the PCT, which during the study comprised two clinical academic consultants, one specialist registrar and three clinical nurse specialists (2.5 full-time equivalents). The PCT had close links with a clinical psychologist, a local hospice and community based palliative care services and access to social workers, rehabilitation staff and the chaplaincy in the hospital. Initial assessment of patients was undertaken by a specialist doctor or specialist nurse, either alone or together, and detailed advice about any problems identified was written in the patients' case notes and communicated to the patient's medical and nursing team personally or by telephone. Appropriate follow-up was then instituted which usually involved both telephone and in-person consultations with the patient, their family and the medical and nursing staff caring for the patient by one of the specialist nurses or the registrar. All patients were reviewed at least weekly by one of the consultants. For patients who were discharged from hospital, the PCT also provided liaison with community based health professionals and outpatient follow-up in the Palliative Care clinic if appropriate. . Duration 4 weeks. Concurrent medication/care: Not reported. Indirectness: No indirectness. (n=86) Intervention 2: Usual care. Telephone PCT. This was a more limited form of intervention to be a control to the usual care (full PCT service). There was no direct contact between the PCT and the patient or their family. Instead within one working day of referral, a telephone consultation took place between a senior medical member of the PCT and the referring doctor and also between a PCT nurse specialist and a member of the ward nursing staff directly involved with the patient. A second telephone consultation could be made if necessary but thereafter no further follow-up or advice was given. Such a telephone advisory service commonly forms a part of the operational policy of specialist palliative care teams. . Duration 4 weeks. Concurrent medication/care: Not reported. Indirectness: No indirectness.
Funding	Academic or government funding (NHS National Cancer R&D Programme)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: MULTIPROFESSIONAL TEAM SERVICE versus USUAL CARE

Protocol outcome 1: Quality of life
- Actual outcome: HRQoL at 4 weeks;

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Study	imPaCT study trial: Hanks 2002[86]
Risk of bias: All domain - Very high, Selection - Low, Blinding - High, Incomplete outcome data - High, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 99, Reason: Patients died or were too ill, tired or just not available; Group 2 Number missing: 53, Reason: Patients died or were too ill, tired or just not available Protocol outcome 2: Length of stay - Actual outcome: Length of stay at 4 weeks; Group 1: mean 14.7 Days (SD 9.4); n=76, Group 2: mean 13.2 Days (SD 9.6); n=33 Risk of bias: All domain - Very high, Selection - Low, Blinding - Low, Incomplete outcome data - High, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution difference; Group 1 Number missing: 99, Reason: Patients died or were too ill, tired or just not available ; Group 2 Number missing: 53, Reason: Patients died or were too ill, tired or just not available Protocol outcome 3: Number of unscheduled admissions - Actual outcome: Readmissions at 4 weeks; Group 1: mean 0.18 (SD 0.4); n=76, Group 2: mean 0.18 (SD 0.4); n=33 Risk of bias: All domain Very high, Selection - Low, Blinding - Low, Incomplete outcome data - High, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 99, Reason: Patients died or were too ill, tired or just not available; Group 2 Number missing: 53, Reason: Patients died or were too ill, tired or just not available Protocol outcome 4: Use of community services - Actual outcome: GP visits per day spent at home at 4 weeks; Group 1: mean 0.23 GP visits per day (SD 2.3); n=76, Group 2: mean 0.13 GP visits per day (SD 0.13); n=33 Risk of bias: All domain - Very high, Selection - Low, Blinding - Low, Incomplete outcome data - High, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution difference; Group 1 Number missing: 99, Reason: Patients died or were too ill, tired or just not available ; Group 2 Number missing: 53, Reason: Patients died or were too ill, tired or just not available - Actual outcome: District nurse visits at 4 weeks; Group 1: mean 0.45 District nurse visits. (SD 0.59); n=76, Group 2: mean 0.34 District nurse visits. (SD 0.54); n=33 Risk of bias: All domain - Very high Selection - Low, Blinding - Low, Incomplete outcome data - High, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 99, Reason: Patients died or were too ill, tired or just not available; Group 2 Number missing: 53, Reason: Patients died or were too ill, tired or just not available Protocol outcome 5: Patient/carer reported outcomes (satisfaction) - Actual outcome: Patient satisfaction: information given about illness at 4 weeks; Group 1: mean 3.5 (SD 0.82); n=127, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 48, Reason: Patients died or were too ill, tired or just not available; Group 2 Number missing: 26, Reason: Patients died or were too ill, tired or just not available - Actual outcome: Patient satisfaction: information given about treatment and medication at 4 weeks; Group 1: mean 3.6 (SD 0.79); n=126, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 49,	

Study	imPaCT study trial: Hanks 2002[86]
Reason: Patients died or were too ill, tired or just not available; Group 2 Number missing: 26, Reason: Patients died or were too ill, tired or just not available - Actual outcome: Patient satisfaction: availability of doctors for discussions at 4 weeks; Group 1: mean 3.6 (SD 0.65); n=127, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 48, Reason: Patients died or were too ill, tired or just not available; Group 2 Number missing: 26, Reason: Patients died or were too ill, tired or just not available - Actual outcome: Patient satisfaction: availability of nurses for discussions at 4 weeks; Group 1: mean 3.6 (SD 0.68); n=126, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 49, Reason: Patients died or were too ill, tired or just not available; Group 2 Number missing: 27, Reason: Patients died or were too ill, tired or just not available - Actual outcome: Carer satisfaction: information giving at 4 weeks; Group 1: mean 2.5 (SD 0.83); n=64, Group 2: mean 2.4 (SD 0.94); n=38 Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 21, Reason: Not reported.; Group 2 Number missing: 4, Reason: Not reported - Actual outcome: Carer satisfaction: availability of care at 4 weeks; Group 1: mean 2 (SD 0.74); n=75; Group 2: mean 1.9 (SD 0.72); n=42, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness; Baseline details: Gender distribution differed; Group 1 Number missing: 10, Reason: Not reported.; Group 2 Number missing: 5, Reason: Not reported - Actual outcome: Carer satisfaction: physical patient care at 4 weeks; Group 1: mean 2.1 (SD 0.71); n=72; Group 2: mean ,2.2 (SD 0.80); n=42 Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness; Baseline details: Gender distribution differed; Group 1 Number missing: 13, Reason: Not reported.; Group 2 Number missing: 4, Reason: Not reported - Actual outcome: Carer satisfaction: psychosocial care at 4 weeks; Group 1: mean 2.3 (SD 0.78); n=64; Group 2: mean 2.3 (SD 0.91); n=42, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 21, Reason: Not reported.; Group 2 Number missing: 5, Reason: Not reported Protocol outcome 6: Preferred and actual place of care - Actual outcome: Days at home at 4 weeks; Group 1: mean 13.2 Days (SD 8.1); n=76, Group 2: mean 15.9 Days (SD 7.9); n=33 Risk of bias: All domain - Very high, Selection - Low, Blinding - Low, Incomplete outcome data - High, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Gender distribution differed; Group 1 Number missing: 99, Reason: Patients died or were too ill, tired or just not available; Group 2 Number missing: 53, Reason: Patients died or were too ill, tired or just not available	

Study	imPaCT study trial: Hanks 2002[86]
Protocol outcomes not reported by the study	Number of hospital visits; Number of visits to accident and emergency; Preferred and actual place of death; Length of survival; Staff satisfaction; Avoidable/inappropriate admissions to ICU; Inappropriate resuscitation; Hospitalisation

Study (subsidiary papers)	Hughes 2000[104] (Hughes 1992[103])
Study type	Non-randomised comparative study
Number of studies (number of participants)	1 (n=171)
Countries and setting	Conducted in USA; Setting: Patients who were hospitalised but discharged home
Line of therapy	Mixed line
Duration of study	Intervention + follow up: Oct 1994 - Sept 1998
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Adults (aged 18 years or over):
Subgroup analysis within study	Not applicable
Inclusion criteria	People who lived within the 25 to 35 mile catchment areas served by the programme. Presence of an available caregiver
Exclusion criteria	Not reported
Age, gender and ethnicity	Age - Mean (SD): HBHC white 93% control 85%. Gender (M:F): HBHC white 93% control 85%. Ethnicity: White HBHC 93% Control 85%
Further population details	1. Any specific population: Not applicable
Extra comments	Hospitalised patients with a terminal diagnoses.
Indirectness of population	No indirectness
Interventions	(n=86) Intervention 1: Multiprofessional team service. The program encompasses an interdisciplinary team that is led by a physician and includes nurses, a social worker, a physical therapist, a dietician and health technicians. The program reinstated, interdisciplinary patient care plans at team meetings and schedules visits according to patient need. The HBHC physician also manages the HBHC patients both in and out of hospital. The model emphasises the provision of comprehensive services based on need, the importance of timely communication about patients across team members and the instruction and involvement of informal caregivers to the maximum possible extent. Model compliance: target care to high-risk patients 93.8%,

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Study (subsidiary papers)	Hughes 2000[104] (Hughes 1992[103])
	designate primary care manager within team 93.8%, provide 24-hr contact for patients 68.8%, prior approval of scheduled hospital readmission 68.8%, transfer stable readmitted patients to step-down beds 75%, involve HBHC team in readmission discharge 56.2%. Duration 6 months. Concurrent medication/care: Not stated (n=85) Intervention 2: Multiprofessional team service. Service delivered by skilled nursing team. No other details provided. Duration 6 months. Concurrent medication/care: Not stated
Funding	Funding not stated

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: MULTIPROFESSIONAL TEAM SERVICE versus MULTIPROFESSIONAL TEAM SERVICE

Protocol outcome 1: Length of stay
- Actual outcome: VA services - intensive care hospital days at not applicable; Group 1: mean 0.13 (SD 0.8); n=86, Group 2: mean 0.45 (SD 3.8); n=85; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Malignant neoplasms HBHC 73% control 80%

- Actual outcome: VA services - rehabilitation days at not applicable; Group 1: mean 0 (SD 0); n=86, Group 2: mean 0.14 (SD 1.3); n=85; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Malignant neoplasms HBHC 73% control 80%

- Actual outcome: VA services - intermediate bed days at not applicable; Group 1: mean 4 (SD 8); n=86, Group 2: mean 2.52 (SD 7.9); n=85; Risk of bias: Very high; Indirectness of outcome: No indirectness
- Actual outcome: VA services - general bed days at not applicable; Group 1: mean 5.63 (SD 10); n=86, Group 2: mean 12.06 (SD 15.2); n=85; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Malignant neoplasms HBHC 73% control 80%

- Actual outcome: VA services - total days at not applicable; Group 1: mean 9.94 (SD 13.3); n=86, Group 2: mean 15.86 (SD 20.1); n=85; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Malignant neoplasms HBHC 73% control 80%

- Actual outcome: VA services - emergency room visits at not applicable; Group 1: mean 0.57 (SD 0.8); n=86, Group 2: mean 0.72 (SD 0.9); n=85; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Malignant neoplasms HBHC 73% control 80%

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Study (subsidiary papers)	Hughes 2000[104] (Hughes 1992[103])
- Actual outcome: VA services - extended care days at not applicable; Group 1: mean 0.38 (SD 3.6); n=86, Group 2: mean 0 (SD 0); n=85; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Malignant neoplasms HBHC 73% control 80% - Actual outcome: VA services - outpatient clinic visits at not applicable; Group 1: mean 0.73 (SD 1.9); n=86, Group 2: mean 2.59 (SD 6.1); n=85; Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Malignant neoplasms HBHC 73% control 80% Protocol outcome 2: Length of survival - Actual outcome: Mortality at 6 months; Group 1: 68/86, Group 2: 66/85; Risk of bias: All domain - High, Selection - High, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: Serious indirectness, Comments: /not a measure of length of survival; Baseline details: Malignant neoplasms HBHC 73% control 80%; Group 1 Number missing: ; Group 2 Number missing: - Actual outcome: Length of survival; Group 1: mean 76.2 (SD 67.1); n=86, Group 2: mean 83.1 (SD 68.1); n=85; Risk of bias: All domain - High, Selection - High, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: Malignant neoplasms HBHC 73% control 80% - Actual outcome: Length of survival - people who died; Group 1: mean 48 (SD 43.3); n=68, Group 2: mean 54.5 (SD 47.7); n=66; Risk of bias: All domain - High, Selection - High, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: Malignant neoplasms HBHC 73% control 80%	
Protocol outcomes not reported by the study	Quality of life; Number of hospital visits; Number of visits to accident and emergency at; Number of unscheduled admissions; Use of community services; Preferred and actual place of death; Staff satisfaction; Avoidable/inappropriate admissions to ICU at ; Inappropriate resuscitation; Patient/carer reported outcomes (satisfaction); Preferred and actual place of care; Hospitalisation

Study	Jongen 2011[112]
Study type	Non-randomised comparative study
Number of studies (number of participants)	1 (n=486 patients (565 admissions, some patients were admitted more than once))
Countries and setting	Conducted in Netherlands; Setting: 769 bed general university hospital (Erasmus MC)
Line of therapy	Not applicable
Duration of study	Intervention + follow up: 2 years (1 January 2007/31 December 2008)
Method of assessment of guideline condition	Adequate method of assessment/diagnosis

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Study	Jongen 2011[112]
Stratum	Adults (aged 18 years or over)
Subgroup analysis within study	Not applicable
Inclusion criteria	Intervention group (2008): admissions of advanced cancer patients (some patients admitted more than once) to the multiprofessional Palliative care team service. Control group (2006): historical control, patients accessing the predecessor of PCT (routine oncological care).
Exclusion criteria	Not stated
Age, gender and ethnicity	Age - Mean (SD): 2006 and 2008 groups, respectively: 58.9(12.9); 59.7(13.9). Gender (M:F): 323/242 (tot 565 admissions). Ethnicity: Not stated
Further population details	1. Any specific population:
Extra comments	Intervention group: most prevalent cancer sites were gastrointestinal tract (42.4%) and urological (14.5%), metastases were present in 69.8%, median WHO performance status was 2.97. Control group: most prevalent cancer sites were gastrointestinal tract (35.3%) and urological (23.1%), metastases were present in 61.4%, median WHO performance status was 2.82.
Indirectness of population	Serious indirectness: Advanced cancer patients. 70-80% no more anticancer treatment; others receiving chemotherapy, radiotherapy, surgery (alone or in combinations). Life expectancy not stated.
Interventions	(n=235) Intervention 1: Multiprofessional team service. Multiprofessional Palliative care team (PCT) consisting of palliative care nurses, a medical oncologist, a neurologist and a team of Anesthesiologists. The team does not have beds at their disposal, but can be consulted for palliative care for cancer patients. The team is available 24/7. The aim of the PCT is to deliver rapid symptom control and accelerated transfer to an out-of-hospital setting. The PCT focuses on symptom management, psychosocial support and medical decision making at the end of life. 1) Regarding symptom management, symptomatic as well as disease modifying interventions are considered, depending on the type and underlying causes of symptoms, the patient's condition and life expectancy; medication is directly prescribed in all department except from Medical Oncology (where doctors are more familiar with prescription of opioids); to support adherence, the palliative care nurse explains medications to patients and instructs the nursing staff. 2) The palliative care nurse evaluates the psychosocial and home situation of the patient, to accelerate transfer to an out of hospital setting and by detecting the need for additional physical and mental health care; in case of need, a social worker, clinical psychologist or spiritual adviser may be consulted. 3) The team closely collaborates in medical decision-making with the treating physicians, for example, the team is actively involved in decisions on treatment, symptom control, and end-of-life care including palliative sedation. Duration 1 year (2008). Concurrent medication/care: Not stated. Comments: Data for 2007 also reported but not extracted. (n=130) Intervention 2: Usual care. Historical control group (year 2006). A service predecessor of the

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Study	Jongen 2011[112]
	multiprofessional PCT. Symptomatic cancer pain relief was provided by palliative care nurses and consulting Anesthesiologists, the latter as a 24/7 service. Described as routine oncological care.. Duration 1 year (2006). Concurrent medication/care: Not stated.
Funding	Funding not stated (Authors declare no competing interests. The paper was not commissioned.)
RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: MULTIPROFESSIONAL PALLIATIVE CARE TEAM SERVICE (2008) versus USUAL CARE (2006) Protocol outcome 1: Length of stay - Actual outcome for Adults (aged 18 years or over): Duration of hospital stay at follow up; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover – Low; Indirectness of outcome: No indirectness Protocol outcome 2: Use of community services - Actual outcome for Adults (aged 18 years or over): Patients referred to a hospice, nursing home or other hospital at follow up; Group 1: 29/209, Group 2: 20/125; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low, Comments - ; Indirectness of outcome: Serious indirectness, Comments: includes 'other hospital' which is not a community service; Group 1 Number missing: 16, Reason: not stated; Group 2 Number missing: 5, Reason: not stated	
Protocol outcomes not reported by the study	Quality of life; Number of hospital visits; Number of visits to accident and emergency at; Number of unscheduled admissions; Preferred and actual place of death; Length of survival; Staff satisfaction; Avoidable/inappropriate admissions to ICU; Inappropriate resuscitation; Patient/carer reported outcomes (satisfaction); Preferred and actual place of care; Hospitalisation

Study (subsidiary papers)	Jordhoy 2000[114] (Jordhoy 2001[113])
Study type	RCT (Service randomised; Parallel)
Number of studies (number of participants)	2 (n=434)
Countries and setting	Conducted in Norway; Setting: Palliative Medicine Unit (PMU) at the University Hospital of Trondheim, Norway within the Norwegian Public Health service, which provides hospital and community care
Line of therapy	Not applicable
Duration of study	Intervention + follow up: 2 years

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Study (subsidiary papers)	Jordhoy 2000[114] (Jordhoy 2001[113])
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Adults (aged 18 years or over):
Subgroup analysis within study	Stratified then randomised: The 8 healthcare district were defined as clusters and stratified into pairs, according to the number of inhabitants older than 60 years and whether the areas were rural or urban.
Inclusion criteria	Incurable malignant disease, life expectancy of 2-9 months (estimated at referral) and age > 18 years. Written informed consent and ability to complete the first questionnaire on quality of life were mandatory for trial entry
Exclusion criteria	Haematological malignant disorders other than lymphomas and participation in other trials with health-related quality of life as an outcome
Recruitment/selection of patients	Patients referred to trial. The recruitment was based on cooperation with all healthcare professional within the trial area. Information about trial design and purpose was given through staff meetings or personal letters, and during the recruitment period, written reminders were distributed at regular intervals .Two research assistants made weekly screening visits at relevant hospital departments and handled referrals, informed patients and completed enrolment. All eligible patients were invited to participate; those residing in a cluster that was allocated to intervention were asked for transferal to PMU.
Age, gender and ethnicity	Age - Median (range): Intervention group: 70 (38-90); control group 69 (37-93). Gender (M:F): Intervention group 132/103; control group 98/101. Ethnicity: Not stated
Further population details	1. Any specific population
Extra comments	Not applicable
Indirectness of population	Serious indirectness: Follow-up for each patients was stopped after 2 years; 10 and 13 patients were still alive when follow-up completed in the intervention and control group, respectively
Interventions	(n=235) Intervention 1: Multiprofessional team service. Palliative Medicine Unit (PMU): includes outpatient and inpatient clinics as well as a multiprofessional consultant team working daytime hours. The team is composed of 2 palliative care nurses, 0.5 (part time) physiotherapist, 1 social worker, 1 nutritionist, 1 priest and 1 physician serving PMU outpatients and inpatients clinic and community professionals working with patients admitted to the palliative care program. Intervention was based on a holistic philosophy, including a multiprofessional approach to the patients' needs (physical, psychological, social and spiritual needs). Intervention was separated into four main points: 1) all inpatient and outpatient services were provided at the PMU unless care elsewhere was required for medical reasons, 2) team at PMU served as a link to the community, 3) predefined guidelines were used to keep the interaction as optimum between services, 4) community professionals were offered an educational programme. Patients' general practitioner and a community nurse were defined as the main professional caregiver. Plans for treatment care were set up in a joint meeting with patients, caregivers, family physician, community nurse and a consultant nurse or

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Study (subsidiary papers)	Jordhoy 2000[114] (Jordhoy 2001[113])
	physician from the unit. Thereafter consultations by community staff were set up as routine. PMY team coordinated care and was available for supervision and advice to join visits at home. Multiprofessional staff meetings were arranged weekly. Educational programme for community staff included bedside training and lectures on symptoms and difficulties in palliative care. Duration 2 years. Concurrent medication/care: Not stated. Comments: Community service: GPs, home care nurses, nursing homes. Hospital service: inpatient care - PMU inpatient unit (12 beds); inpatients staff - 18 nurses and 2 physicians; MPT - PMU consultant team; outpatients' consultations - PMU by palliative care nurse and physician. Routines: principal caregivers - home care nurse and GP; hospital contacts - PMU physician and nurse; care coordinator - PMU consultant nurse; treatment plan - set up in joint meeting (PMU and community service); home care and GP visit - regular, according to needs and predefined standards; hospital admittance - on request, cooperation with the community service; hospital discharge - early planning with patient, family, and community service; assistance to community service - PMU team, ambulatory consultative service. (n=199) Intervention 2: Usual care. Conventional care for advanced cancer patients is shared among the hospital departments and the community according to diagnosis and medical needs. No well-defined follow-up routine exist. Poor communication between level of services. No specialist palliative care service is available. No multiprofessional team, overall approximately 15 social workers, 3 priests and 47 physios serving 946 beds. Patient approach: ad hoc, mainly addressing physical needs.. Duration 2 years. Concurrent medication/care: Not stated Comments: Community service: GPs, home care nurses, nursing homes. Hospital service: inpatient care - other hospital ward (mainly surgery departments, medicine and general oncology); inpatients staff - comparable to the PMU inpatient unit; MPT - none; outpatients consultations - other departments by physician. Routines: principal caregivers - seldom clearly defined; hospital contacts - seldom clearly defined; care coordinator - none; treatment plan - ad hoc, no joint meeting; home care and GP visit - ad hoc; hospital admittance - on request; hospital discharge - ad hoc; assistance to community service - No.
Funding	Academic or government funding (Grants from the Norwegian Cancer Society, The Swedish Cancer Society, and The Norwegian Medical Association Fund for Quality Improvement.)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: MULTIPROFESSIONAL TEAM SERVICE versus USUAL CARE

Protocol outcome 1: Quality of life
- Actual outcome for Adults (aged 18 years or over): EORTOC-QLQ-C30 Functioning scales (Physical) at 6 months; Mean Intervention (n=56): 53; control (n=52): 56; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: At baseline, pts differed for housing, access to informal

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Study (subsidiary papers)	Jordhoy 2000[114] (Jordhoy 2001[113])

help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

- Actual outcome for Adults (aged 18 years or over): EORTOC-QLQ-C30 Functioning scales (Role) at 6 months; Mean Intervention (n=56): 47; Control (n=52): 43; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

- Actual outcome for Adults (aged 18 years or over): EORTOC-QLQ-C30 Functioning scales (Emotional) at 6 months; Mean Intervention (n=56): 71, control (n=52): 76; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

- Actual outcome for Adults (aged 18 years or over): EORTOC-QLQ-C30 Functioning scales (Cognitive) at 6 months; Mean Intervention (n=56): 71; control (n=52): 72 EORTOC-QLQ-C30 0-100 Top=High is good outcome; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

- Actual outcome for Adults (aged 18 years or over): EORTOC-QLQ-C30 Functioning scales (Social) at 6 months; Mean Intervention (n=56): 67; control (n=52): 58 EORTOC-QLQ-C30 0-100 Top=High is good outcome; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

- Actual outcome for Adults (aged 18 years or over): EORTOC-QLQ-C30 Functioning scales (Global health) at 6 months; Mean Intervention (n=56): 55; control(n=52): 52 EORTOC-QLQ-C30 0-100 Top=High is good outcome; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - High, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

Study (subsidiary papers)	Jordhoy 2000[114] (Jordhoy 2001[113])

Protocol outcome 2: Length of stay
- Actual outcome for Adults (aged 18 years or over): Number of inpatient days at nursing home at last month before death; Group 1: mean 2.2 (SD 6.8); n=219, Group 2: mean 4.3 (SD 9.3); n=176; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

- Actual outcome for Adults (aged 18 years or over): Number of days under observation spent at nursing home at last month before death; Group 1: mean 7.2 (SD 22); n=219, Group 2: mean 14.6 (SD 30.5); n=176; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

- Actual outcome for Adults (aged 18 years or over): Number of inpatients-days at last month before death; Group 1: mean 12.1 (SD 10); n=219, Group 2: mean 12.4 (SD 9.4); n=176; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

- Actual outcome for Adults (aged 18 years or over): Number of days under observation spent in hospital at last month before death; Group 1: mean 45.5 (SD 35.2); n=219, Group 2: mean 45.3 (SD 33.2); n=176; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

Protocol outcome 3: Hospitalisation
- Actual outcome for Adults (aged 18 years or over): Number of patients admitted to hospital at last month before death; Group 1: 182/219, Group 2: 153/176; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed

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Study (subsidiary papers)	Jordhoy 2000[114] (Jordhoy 2001[113])
Protocol outcome 4: Use of community services - Actual outcome for Adults (aged 18 years or over): Patients admitted to nursing home at last month before death; Group 1: 28/219, Group 2: 42/176; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed Protocol outcome 5: Preferred and actual place of death - Actual outcome for Adults (aged 18 years or over): Death at home at follow-up; Group 1: 54/219, Group 2: 26/176; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: Serious indirectness, Comments: Only actual place of death reported; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed - Actual outcome for Adults (aged 18 years or over): Death in the hospital at follow-up; Group 1: 146/219, Group 2: 114/176; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: Serious indirectness, Comments: Only actual place of death reported; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed - Actual outcome for Adults (aged 18 years or over): Death in a nursing home at follow-up; Group 1: 19/219, Group 2: 36/176; Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: Serious indirectness, Comments: Only actual place of death reported; Baseline details: At baseline, pts differed for housing, access to informal help, home-care nursing and living situation, diagnosis group and time from diagnosis to inclusion. ; Group 1 Number missing: 16, Reason: 6 withdrew from study; 10 still alive when follow up completed; Group 2 Number missing: 23, Reason: 10 withdrew from study; 13 still alive when follow up completed	
Protocol outcomes not reported by the study	Number of visits to accident and emergency; Number of unscheduled admissions; Length of survival; Staff satisfaction; Avoidable/inappropriate admissions to ICU; Inappropriate resuscitation; Patient/carer reported outcomes (satisfaction); Preferred and actual place of care; Number of hospital visits

Study	Ozcelik 2014[174]
Study type	RCT (Patient randomised; Parallel)

Study	Ozcelik 2014[174]
Number of studies (number of participants)	1 (n=44)
Countries and setting	Conducted in Turkey; Setting: Tulay Aktas Oncology Hospital
Line of therapy	Mixed line
Duration of study	Intervention + follow up: 2 years
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Adults (aged 18 years or over)
Subgroup analysis within study	Not applicable
Inclusion criteria	Acute need for palliative care, older than 18 years, advanced stage cancer, life expectancy of between 6 to 12 months.
Exclusion criteria	Not stated
Recruitment/selection of patients	Recruited from hospital
Age, gender and ethnicity	Age - Mean (SD): 53.11 (12.83). Gender (M:F): 11/33. Ethnicity: NA
Further population details	1. Any specific population:
Extra comments	Baseline EORTOC QLQ-C30 quality of life, mean (SD), for intervention group and control group, respectively: physical 17.5 (13.8), 15.15(11.3); role 15.9 (16.6), 18.9 (16.5); emotional 30.9 (18.3), 38.4 (15.3); cognitive 43.1 (26.0), 55.3 (20.1); social 14.3 (16.5), 16.6 (19.2); global quality of life 25.0 (19.7), 33.3 (9.27).
Indirectness of population	No indirectness
Interventions	(n=22) Intervention 1: Multiprofessional team service. Immediate consultation and follow up in the case management by the palliative care team (including a medical oncologist, a case manager nurse, and a clinical nurse, an algologist, a psychiatrist, a physical therapy expert, a social services expert, and a liaison consultant nurse with a doctorate in psychiatry) based on a philosophy of multiprofessional care. After a comprehensive diagnosis, effective symptom management, psychological stress management, social support, care and training support, and family counselling services were organised. The case management palliative care is based on a model of acute palliative care in a hospital care. Case management palliative care team, the palliative care consultation consists of an assessment by both a RN case manager and an oncologist physician; dietician, psychiatrist, social worker, and physiotherapist are involved. Additional referrals may be made to other members of the interdisciplinary team. Patients are referred to the team by their medical, for pain management, treatment of other symptoms, and palliative care planning. Recommendations are made for symptom and palliative care treatment, education, counselling, and care support. The consultation process has been described previously, patients are seen first by RN case

Study	Ozcelik 2014[174]
	manager and oncologist who assess the patient and collect the names of their medications. The physician then conducts a full medical, physical, and psychosocial assessment, following which recommendations are made for symptom and palliative care treatment, education, counselling, and care support. The case management palliative care team includes a social worker, psychiatrists, and dietician who are involved depending on patient need and preference; other specialists are consulted as necessary. Follow-up appointments at the RN case manager are tailored to the needs of each patient. We also provided inpatient follow-up, family counselling, and patient and family education. Duration NA. Concurrent medication/care: NA (n=22) Intervention 2: Usual care. An oncologist obtained medical history, examined the patient, and ordered various tests. Treatment plans were made, and orders given to ward nurses. The nurses provided the treatment, according to doctors' orders and implemented usual nursing care. Duration NA. Concurrent medication/care: NA
Funding	No funding

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: MULTIPROFESSIONAL TEAM SERVICE versus USUAL CARE
NB data for quality of life was edited (negative change scores transformed to positive change scores) as results were incorrectly reported by the paper.

Protocol outcome 1: Quality of life
- Actual outcome: EORTC QLQ-C30 Quality-of-Life Functional Subgroup Score (physical) at NA; Group 1: mean 6.05 (SD 11.44); n=22, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness

- Actual outcome: EORTC QLQ-C30 Quality-of-Life Functional Subgroup Score (Role) at NA; Group 1: mean 18.9 (SD 19.4); n=22, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness

- Actual outcome: EORTC QLQ-C30 Quality-of-Life Functional Subgroup Score (Emotional) at NA; Group 1: mean 33.6 (SD 22.8); n=22, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness

- Actual outcome: EORTC QLQ-C30 Quality-of-Life Functional Subgroup Score (Cognitive) at NA; Group 1: mean 27.2 (SD 27.9); n=22, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness

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Study	Ozcelik 2014[174]
- Actual outcome: EORTC QLQ-C30 Quality-of-Life Functional Subgroup Score (Social) at NA; Group 1: mean 23.4 (SD 25); n=22, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness - Actual outcome: EORTC QLQ-C30 Quality-of-Life Functional Subgroup Score (Global) at NA; Group 1: mean 30.3 (SD 18.2); n=22, Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness Protocol outcome 2: Patient/carer reported outcomes (satisfaction) - Actual outcome: Patient satisfaction at NA; MD 1.12 (SE 0.55); Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness - Actual outcome: Family satisfaction at NA; MD 0.99 (SE 0.49); Risk of bias: All domain - High, Selection - Low, Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness	
Protocol outcomes not reported by the study	Hospitalisation; Number of hospital visits; Number of visits to accident and emergency at; Number of unscheduled admissions; Use of community services; Preferred and actual place of death; Length of survival; Staff satisfaction; Avoidable/inappropriate admissions to ICU; Inappropriate resuscitation; Preferred and actual place of care; Length of stay

Study	Sahlen 2016[189]
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=72)
Countries and setting	Conducted in Sweden; Setting: Advanced home care unit providing services Monday - Friday, based in a county hospital.
Line of therapy	Unclear
Duration of study	Intervention time: 6 months
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Overall
Subgroup analysis within study	Not applicable

Study	Sahlen 2016[189]
Inclusion criteria	Confirmed diagnosis of CHF according to criteria of European Society of Cardiology, NYHA functional class 3 symptoms, one of: hospitalised episode of worsening heart failure that resolved with the injection/infusion of diuretics or addition of other heart failure treatment in the preceding 6 months; the need for frequent or continual iv support; chronically poor quality of life; signs of cardiac cachexia; and life expectancy of <1 year.
Exclusion criteria	People who did not want to take part to the study; people with severe communication problems, people with severe dementia; people with other serious diseases in where heart failure is of secondary importance; people with other life-threatening illnesses as their primary diagnosis and an expected short survival time; people whose primary care centre responsible for their care is geographically located > 30 km from the hospital; people who are already participating in another clinical trial.
Age, gender and ethnicity	Age - Other: NA. Gender (M:F): NA. Ethnicity: NA
Further population details	1. Any specific population:
Extra comments	Full methods reported in previous study 'Brannstrom et al., 2013. A new model for integrated heart failure and palliative advanced homecare - rationale and design of a prospective randomised study.'
Indirectness of population	No indirectness
Interventions	(n=36) Intervention 1: Multiprofessional team service. Patients offered a multiprofessional approach involving collaboration between specialists in palliative and heart failure care, (specialised nurses, palliative care nurses, cardiologist, palliative care physician, physiotherapist, and occupational therapist). The programme included patient education on self-care maintenance and management of heart failure, and establishment of an ACP, designed with patients and revised regularly. Key individuals (for example, nurse and physician) were identified for each patient (point of contact). Out of hours providers were informed of the identity of these patients and know how to respond to calls. Duration 6 months. Concurrent medication/care: Full access to hospital-based emergency care. (n=36) Intervention 2: Usual care. Standard care, usually provided by a primary health care centre or the nurse-led heart failure clinic at the hospital. Duration 6 months. Concurrent medication/care: Full access to hospital-based emergency care.
Funding	Academic or government funding (Swedish Association of Local Authorities and Regions, and the Strategic Research Program in Health Care Services)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: MULTIPROFESSIONAL TEAM SERVICE versus USUAL CARE

Protocol outcome 1: Quality of life
- Actual outcome: EQ5D at 6 months; Group 1: mean 0.006; n=36, Group 2: mean -0.024; n=36; Risk of bias: All domain - Very high, Selection - High,

Study	Sahlen 2016[189]
Blinding - High, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness	
Protocol outcomes not reported by the study	Hospitalisation; Number of hospital visits; Number of visits to accident and emergency at; Number of unscheduled admissions; Use of community services; Preferred and actual place of death; Length of survival; Staff satisfaction; Avoidable/inappropriate admissions to ICU; Inappropriate resuscitation; Patient/carer reported outcomes (satisfaction); Preferred and actual place of care; Length of stay at

Study	Tan 2016[217]
Study type	Non-randomised comparative study
Number of studies (number of participants)	1 (n=914)
Countries and setting	Conducted in Singapore
Line of therapy	Not applicable
Duration of study	Other: Between September 2012 to June 2014 for intervention group and January 2007 to January 2011 for comparison group.
Method of assessment of guideline condition	Unclear method of assessment/diagnosis: Diagnosed with cancer and had an expected prognosis of 1 year or less, does not give more details.
Stratum	Overall
Subgroup analysis within study	Not applicable
Inclusion criteria	Deceased patients with cancer; prognosis of one year or less; discharged home, and were enrolled into the DPH hospice home care programme between September 2012 and June 2014.
Exclusion criteria	Terminal discharges whereby the patients were discharged home, at their own request because death was imminent.
Recruitment/selection of patients	They were identified using the in-house Palliative Medicine Care (PMC) database in Tan Tock Seng Hospital.
Age, gender and ethnicity	Age - Mean (SD): 71.0 (14.4) in the intervention group and 69.4 (13.0) in the comparator group. Gender (M:F):537/914. Ethnicity: Chinese, Malay, Indian and Others.
Further population details	N/A
Extra comments	N/A
Indirectness of population	No indirectness

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Study	Tan 2016[217]
Interventions	(n=321) Intervention 1: Multiprofessional team service. A multiprofessional team comprised physicians, nurses and medical social workers with an oversight of care provided by a specialist palliative care physician. They provided holistic, 24/7 hospice home care services including nursing and medical care to manage patients' pain and symptoms coaching for caregivers on how to care for patients at home, psychosocial care to assist patients and families with the emotional and social aspects of coping with patients' illness and bereavement counselling after death. There was nurse-led case management whereby the nurses work closely with the other healthcare professionals in the team to develop care plans for their patients and discussed complex cases during multiprofessional case conferences. ACP was conducted using a structured approach. The team ensured that the patients' preferences, in a 'Preferred Plan of Care' were made known to all providers involved in the care of the patient by means of a patient-held medical records as well as electronic medical records. Duration Not reported. Concurrent medication/care: Not reported. Indirectness: No indirectness Comments: The intervention is not just multiprofessional care but a mix of MPT, Case management and ACP. (n=593) Intervention 2: Usual care. Hospice home care was provided by Voluntary Welfare Organisations in Singapore. There was little formal integration and coordination existing between hospices and acute care providers. Duration Not reported. Concurrent medication/care: Not reported. Indirectness: Serious indirectness; Indirectness comment: This differs to UK as usual care is conducted by Voluntary Work Organisations.
Funding	Academic or government funding (The Singapore Tote Board, the Ministry of Health and Dover Park Hospice.)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: MULTIPROFESSIONAL TEAM SERVICE versus USUAL CARE

Protocol outcome 1: Hospitalisation
- Actual outcome: Hospitalisation at 6 months prior to death; Group 1: 284/321, Group 2: 567/593 (adjusted OR 0.26 (0.14 to 0.48)
Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: There were significant differences for marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing:0 ; Group 2 Number missing:0

- Actual outcome: Hospitalisation at 3 months prior to death; Group 1: 238/321, Group 2: 537/593 (adjusted OR 0.23 (0.15 to 0.35)
Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: There were significant differences for marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing:0 ; Group 2 Number missing:0

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Study	Tan 2016[217]
	- Actual outcome: Hospitalisation at 1 month prior to death; Group 1: 125/321, Group 2: 427/593 (adjusted OR (0.19 (0.14 to 0.26) Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: There were significant differences for marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing:0 ; Group 2 Number missing:0 Protocol outcome 2: Number of visits to accident and emergency - Actual outcome: ED visits at 6 months prior to death; Group 1: 270/321, Group 2: 555/593 (adjusted OR 0.26 (0.16 to 0.42) Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: There were significant differences for marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing:0 ; Group 2 Number missing:0 - Actual outcome: ED visits at 3 months prior to death; Group 1: 216/321, Group 2: 516/593 (adjusted OR 0.23 (0.16 to 0.33) Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: There were significant differences for marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing:0 ; Group 2 Number missing:0 - Actual outcome: ED visits at 1 month prior to death; Group 1: 100/321, Group 2: 391/593 (adjusted OR 0.18 (0.13 to 0.25) Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: No indirectness ; Baseline details: There were significant differences for marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing:0 ; Group 2 Number missing:0 Protocol outcome 3: Preferred and actual place of death - Actual outcome: Location of death: home; Group 1: 221/321, Group 2: 237/593 Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: Serious indirectness, Comments: There are no details of preferred place of death; Baseline details: There were significant differences for age, marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing: 0; Group 2 Number missing: 16 - Actual outcome: Location of death: inpatient hospice; Group 1: 102/321, Group 2: 84/593 Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: Serious indirectness, Comments: There are no details of preferred place of death; Baseline details: There were significant differences for marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing: 0; Group 2 Number missing: 16 - Actual outcome: Location of death: hospital; Group 1: 45/321, Group 2: 253/593 Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: Serious indirectness, Comments: There are no details of preferred place of death; Baseline details: There were significant differences for marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing: 0; Group 2 Number missing: 16

Study	Tan 2016[217]
- Actual outcome: Location of death: nursing home; Group 1: 3/321, Group 2: 3/593 Risk of bias: All domain - Very high, Selection - Very high, Blinding - Low, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low, Subgroups - Low; Indirectness of outcome: Serious indirectness, Comments: There are no details of preferred place of death; Baseline details: There were significant differences for marital status, caregiver, mobility, swallowing ability, mental ability and active oncological treatment.; Group 1 Number missing: 0; Group 2 Number missing: 16	
Protocol outcomes not reported by the study	Quality of life; Number of hospital visits; Number of unscheduled admissions; Use of community services; Length of survival; Staff satisfaction; Avoidable/inappropriate admissions to ICU; Inappropriate resuscitation; Patient/carer reported outcomes (satisfaction); Preferred and actual place of care; Length of stay

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Appendix E: Forest plots

E.1 MPT (home-based palliative care service) versus usual care in adults with progressive life-limiting conditions thought to be entering their last year of life

Figure 2: Preferred and actual place of death (people dying at home)

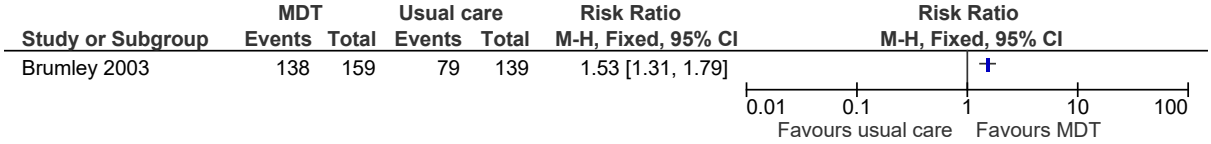


Figure 3: Number of hospital visits

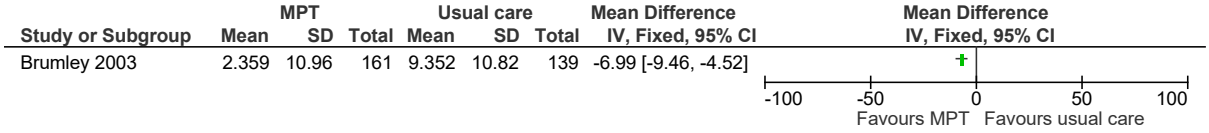


Figure 4: Number of visits to accident and emergency (Emergency department visits)

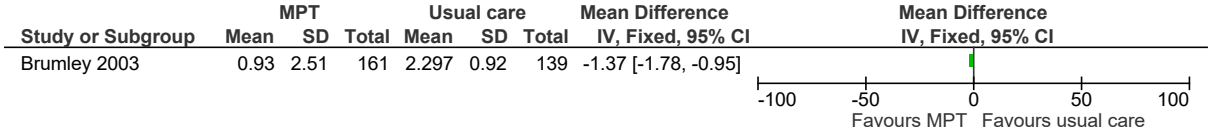


Figure 5: Use of community services (physicians visits)

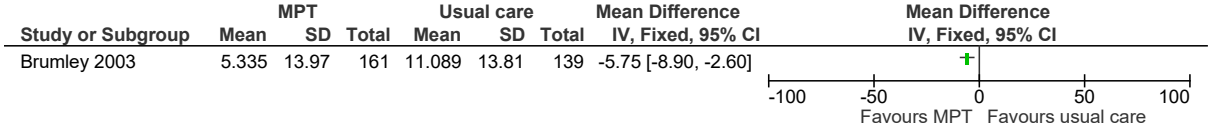


Figure 6: Use of community services (skilled nursing care visits)

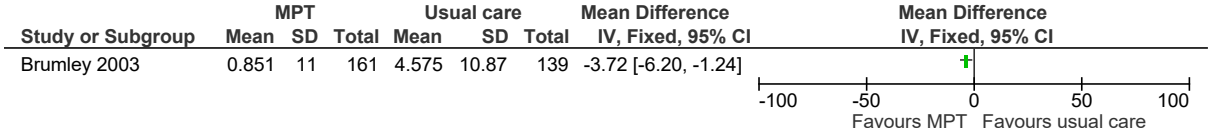
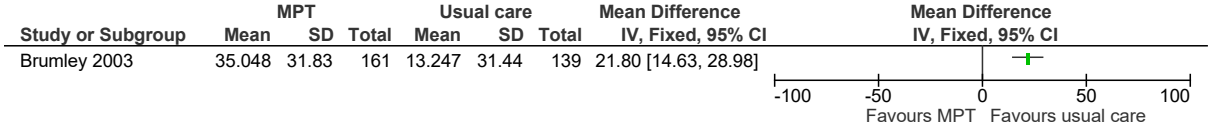


Figure 7: Use of community services (total home health visits)



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E.2 MPT (in-home palliative care service) versus usual care in adults with progressive life-limiting conditions thought to be entering their last year of life

Figure 8: Hospitalisation (people hospitalised)

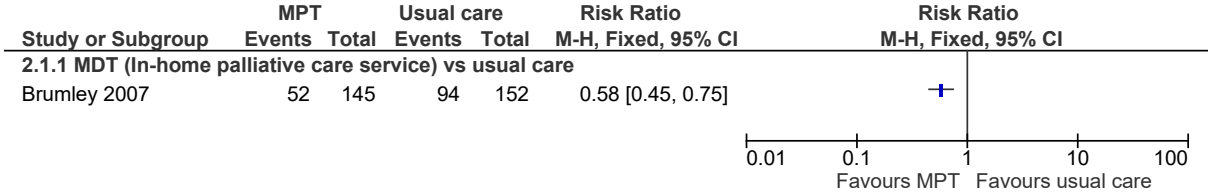


Figure 9: Number of visits to accident and emergency

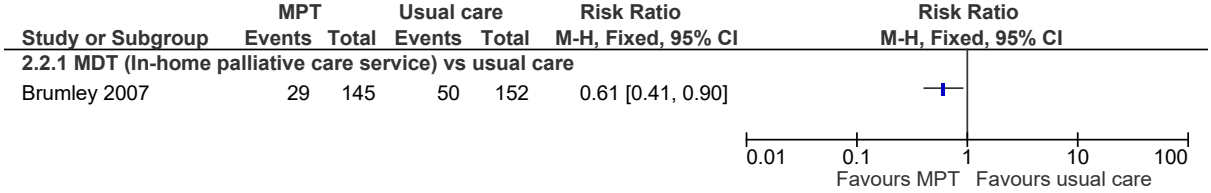


Figure 10: Use of community services (people enrolled in hospice)

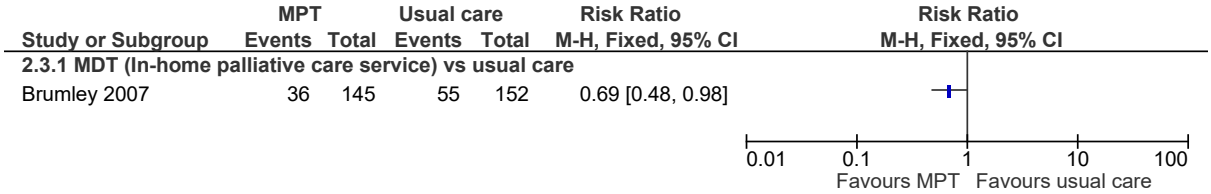
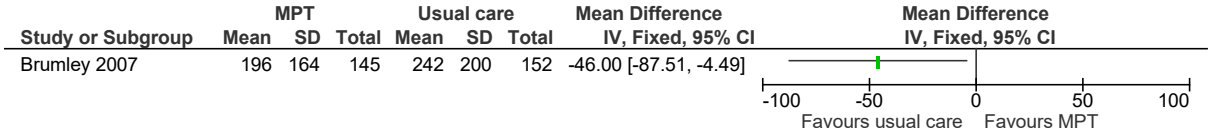


Figure 11: Length of survival (days of survival after enrolment)



E.3 MPT (Inpatient palliative care team) versus usual care in adults with progressive life-limiting conditions thought to be entering their last year of life

Figure 12: Use of community services (people admitted to hospice)

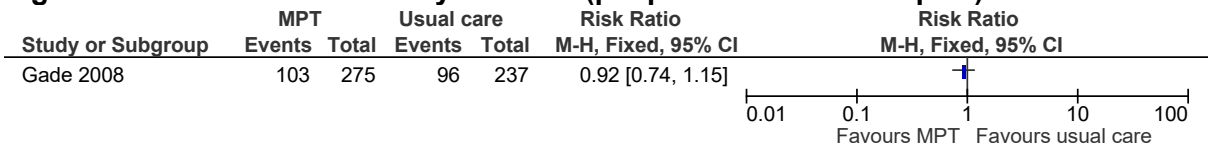


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Figure 13: Patient/carer reported outcome (doctor, nurses/other health professional provider)

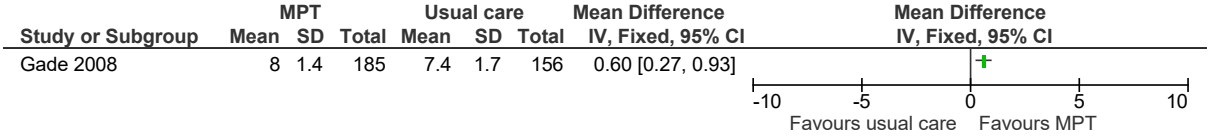


Figure 14: Patient/carer reported outcomes (place of care environment scale, 0-10)

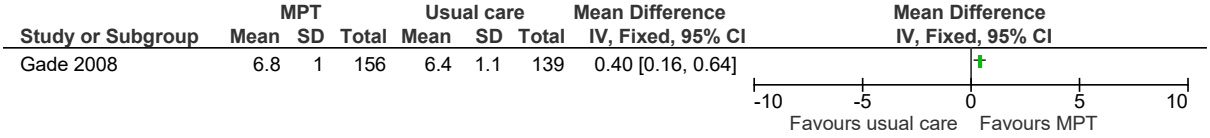
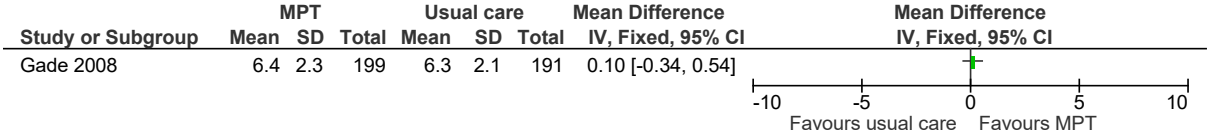


Figure 15: Quality of life (self-reported quality of life, MCHPQ 0-10)



E.4 MPT (MPT) versus usual care (telephone palliative care team)

Figure 16: Length of stay

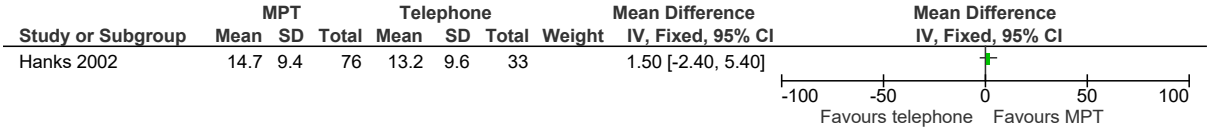


Figure 17: Readmissions

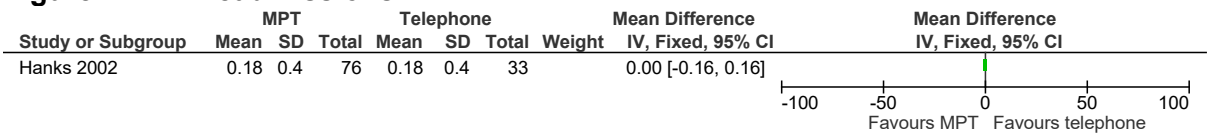


Figure 18: GP visits per day

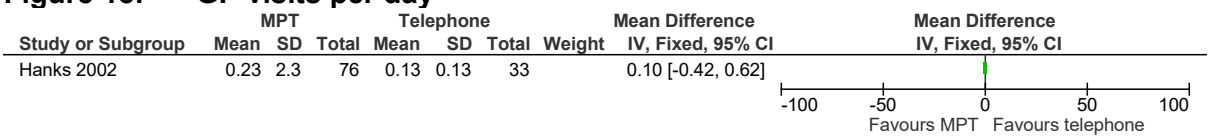


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Figure 19: District nurse visits

Study or Subgroup	MPT Mean	MPT SD	MPT Total	Telephone Mean	Telephone SD	Telephone Total	Weight	Mean Difference IV, Fixed, 95% CI
Hanks 2002	0.45	59	76	0.34	0.54	33		0.11 [-13.16, 13.38]

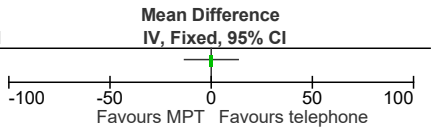

Figure 20: Patient satisfaction: information given about illness

Study or Subgroup	MPT Mean	MPT SD	MPT Total	Telephone Mean	Telephone SD	Telephone Total	Weight	Mean Difference IV, Fixed, 95% CI
Hanks 2002	3.5	0.82	127	3.3	0.95	60		0.20 [-0.08, 0.48]

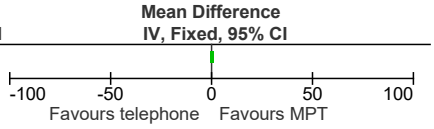

Figure 21: Patient satisfaction: information given about treatment and medication

Study or Subgroup	MPT Mean	MPT SD	MPT Total	Telephone Mean	Telephone SD	Telephone Total	Weight	Mean Difference IV, Fixed, 95% CI
Hanks 2002	3.6	0.79	126	3.5	0.29	60		0.10 [-0.06, 0.26]

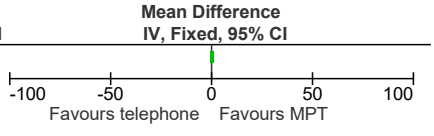

Figure 22: Patient satisfaction: availability of doctors for discussions

Study or Subgroup	MPT Mean	MPT SD	MPT Total	Telephone Mean	Telephone SD	Telephone Total	Weight	Mean Difference IV, Fixed, 95% CI
Hanks 2002	3.6	0.65	127	3.5	0.79	60		0.10 [-0.13, 0.33]

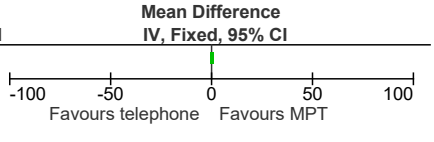

Figure 23: Patient satisfaction: availability of nurses for discussions

Study or Subgroup	MPT Mean	MPT SD	MPT Total	Telephone Mean	Telephone SD	Telephone Total	Weight	Mean Difference IV, Fixed, 95% CI
Hanks 2002	3.6	6.8	126	3.6	0.7	59		0.00 [-1.20, 1.20]

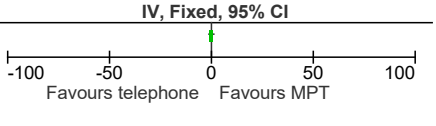

Figure 24: Carer satisfaction: information giving

Study or Subgroup	MPT Mean	MPT SD	MPT Total	Telephone Mean	Telephone SD	Telephone Total	Weight	Mean Difference IV, Fixed, 95% CI
Hanks 2002	2.5	0.83	64	2.4	0.94	38		0.10 [-0.26, 0.46]

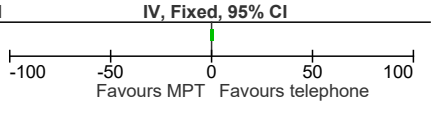

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Figure 25: Carer satisfaction: availability of care

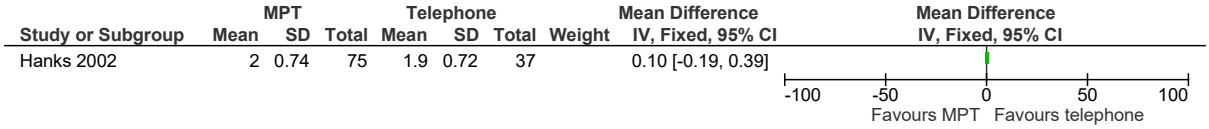


Figure 26: Carer satisfaction: physical patient care

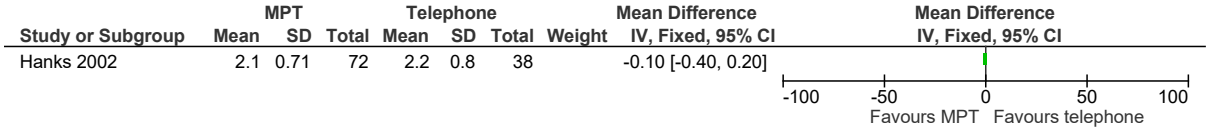


Figure 27: Carer satisfaction: psychosocial care

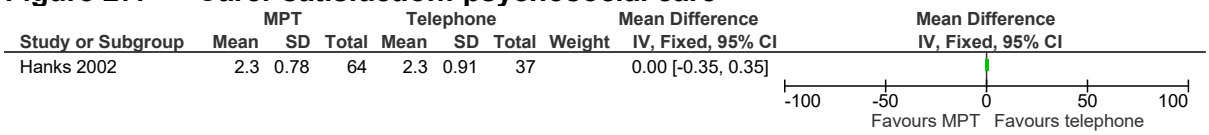
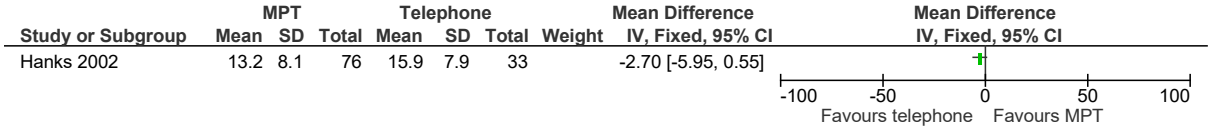


Figure 28: Days at home



E.5 MPT (interdisciplinary team) versus MPT (skilled nurses team) in adults with progressive life-limiting conditions thought to be entering their last year of life

Figure 29: Length of survival (mortality) 6 months

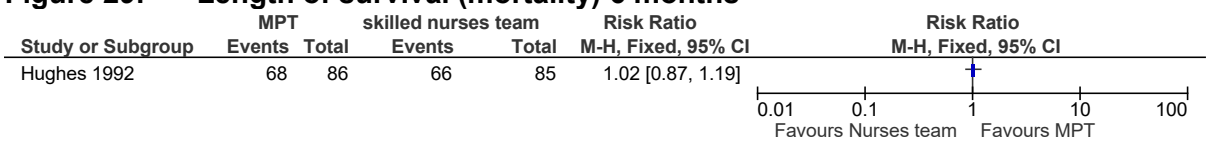


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Figure 30: Length of survival

Study or Subgroup	MPT Mean	MPT SD	MPT Total	skilled nurses team Mean	skilled nurses team SD	skilled nurses team Total	Mean Difference IV, Fixed, 95% CI
Hughes 1992	76.2	67.1	86	83.1	68.1	85	-6.90 [-27.17, 13.37]

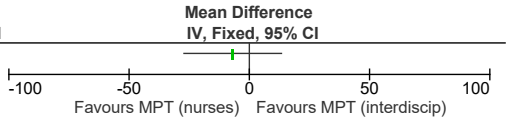

Figure 31: Length of survival (survival of people who died)

Study or Subgroup	MPT Mean	MPT SD	MPT Total	Skilled nurses team Mean	Skilled nurses team SD	Skilled nurses team Total	Mean Difference IV, Fixed, 95% CI
Hughes 1992	48	43.3	68	54.5	47.7	66	-6.50 [-21.94, 8.94]

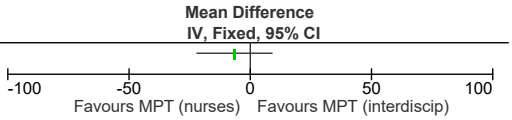

Figure 32: Length of stay (VA services – emergency room visits)

Study or Subgroup	MPT Mean	MPT SD	MPT Total	skilled nurses team Mean	skilled nurses team SD	skilled nurses team Total	Mean Difference IV, Fixed, 95% CI
Hughes 1992	0.57	0.8	86	0.72	0.9	85	-0.15 [-0.41, 0.11]

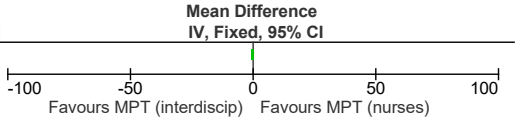

Figure 33: Length of stay (VA services – extended care days)

Study or Subgroup	MPT Mean	MPT SD	MPT Total	skilled nurses team Mean	skilled nurses team SD	skilled nurses team Total	Mean Difference IV, Fixed, 95% CI
Hughes 1992	0.38	3.6	86	0	0	85	Not estimable

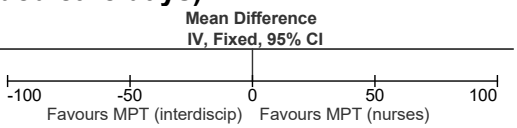

Figure 34: Length of stay (VA services – general bed days)

Study or Subgroup	MPT Mean	MPT SD	MPT Total	skilled nurses team Mean	skilled nurses team SD	skilled nurses team Total	Mean Difference IV, Fixed, 95% CI
Hughes 1992	5.63	10	86	12.06	15.2	85	-6.43 [-10.29, -2.57]

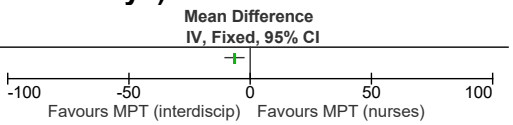

Figure 35: Length of stay (VA services – intensive care hospital days)

Study or Subgroup	MPT Mean	MPT SD	MPT Total	skilled nurses team Mean	skilled nurses team SD	skilled nurses team Total	Mean Difference IV, Fixed, 95% CI
Hughes 1992	0.13	0.8	86	0.45	3.8	85	-0.32 [-1.15, 0.51]

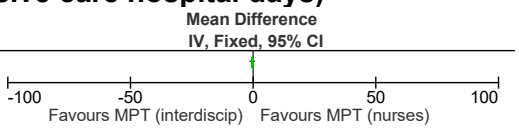

Figure 36: Length of stay (VA services – intermediate bed days)

Study or Subgroup	MPT Mean	MPT SD	MPT Total	skilled nurses team Mean	skilled nurses team SD	skilled nurses team Total	Mean Difference IV, Fixed, 95% CI
Hughes 1992	4	8	86	2.52	7.9	85	1.48 [-0.90, 3.86]

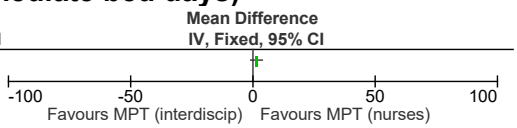

Figure 37: Length of stay (VA services – outpatient clinic visits)

Study or Subgroup	MPT Mean	MPT SD	MPT Total	skilled nurses team Mean	skilled nurses team SD	skilled nurses team Total	Mean Difference IV, Fixed, 95% CI
Hughes 1992	0.73	1.9	86	2.59	6.1	85	-1.86 [-3.22, -0.50]

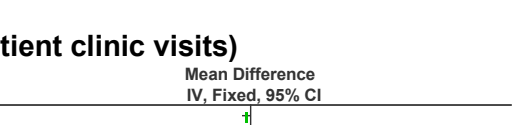

Figure 38: Length of stay (VA services – rehabilitation days)

Study or Subgroup	MPT Mean	MPT SD	MPT Total	skilled nurses team Mean	skilled nurses team SD	skilled nurses team Total	Mean Difference IV, Fixed, 95% CI
Hughes 1992	0	0	86	0.14	1.3	85	Not estimable

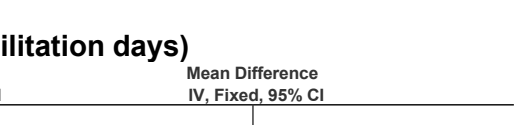

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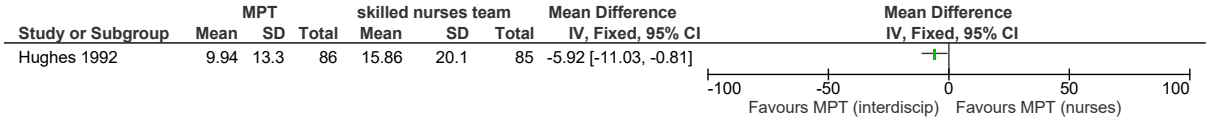
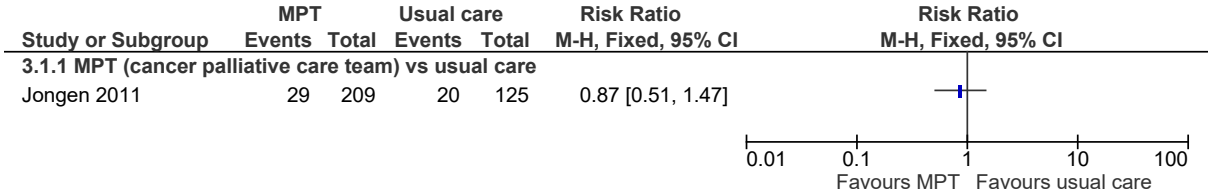
Figure 39: Length of stay (VA services – total days)



E.6 MPT (cancer palliative care team) versus usual care in adults with progressive life-limiting conditions thought to be entering their last year of life

Figure 40: Use of community services (patients referred to hospital, nursing home, or hospice)



E.7 MPT (palliative medicine unit team) versus usual care in adults with progressive life-limiting conditions thought to be entering their last year of life

Figure 41: Preferred and actual place of death (death at home)

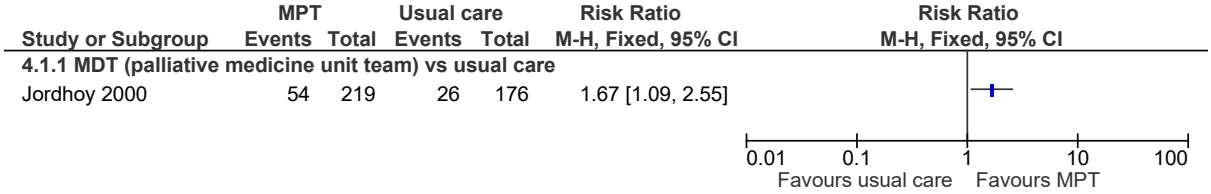


Figure 42: Preferred and actual place of death (death at nursing home)

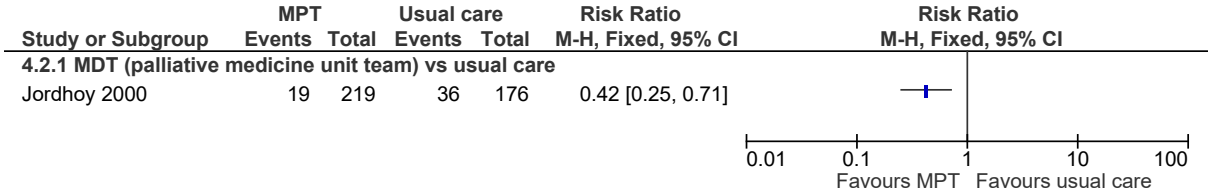


Figure 43: Preferred and actual place of death (death in hospital)

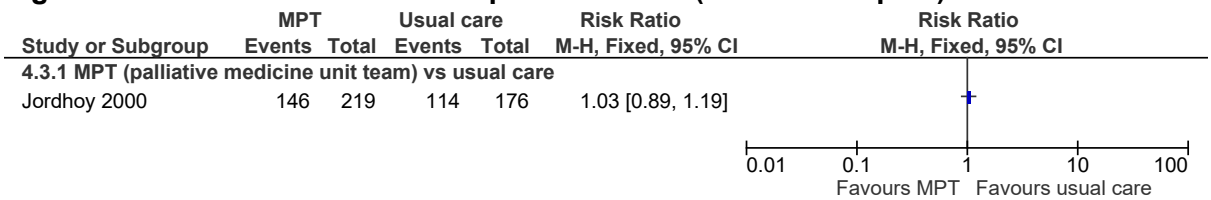


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Figure 44: Hospitalisation last month before death

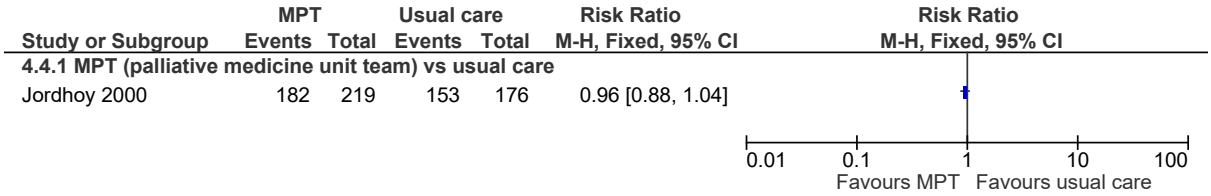


Figure 45: Use of community services (patients admitted to nursing home) last month before death

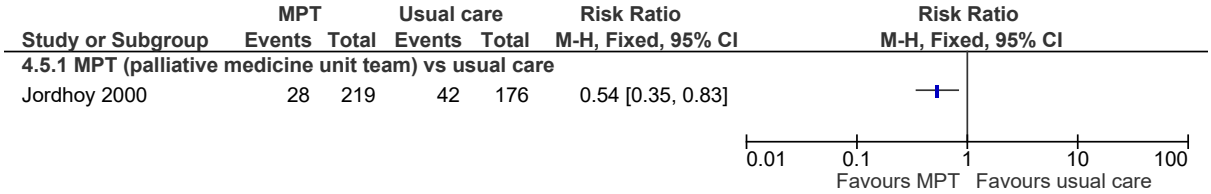


Figure 46: Length of stay (number of days under observation at nursing home) last month before death

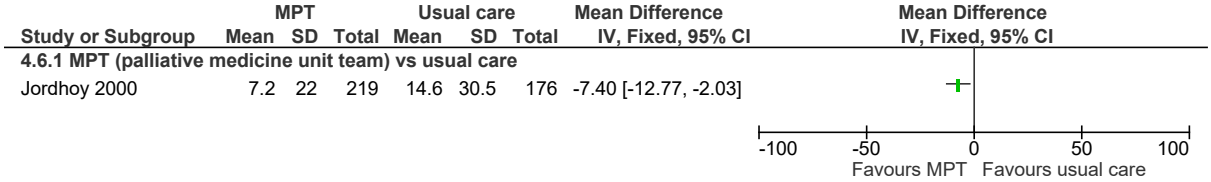


Figure 47: Length of stay (number of days under observation in hospital) last month before death

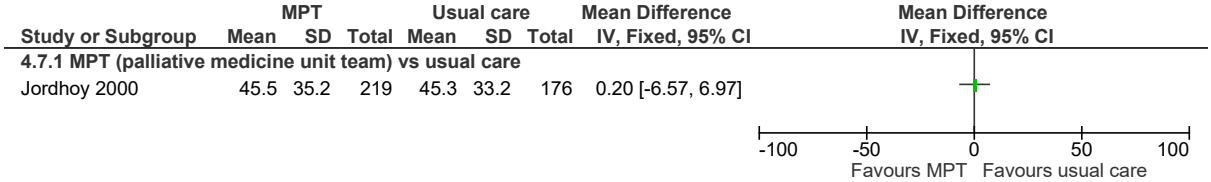


Figure 48: Length of stay (number of inpatient days at nursing home) last month before death

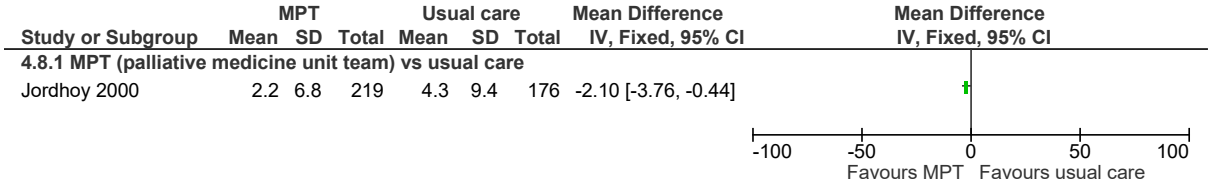
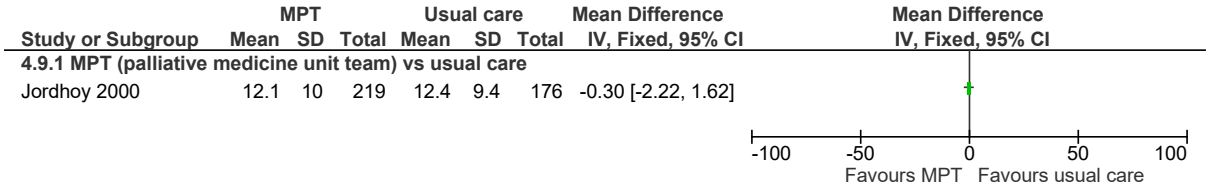


Figure 49: Length of stay (number of inpatients days at nursing home) last month before death



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E.8 MPT (palliative care case management) versus usual care in adults with progressive life-limiting conditions thought to be entering their last year of life

Figure 50: Quality of life (EORTC QLQ-C30 - Physical)

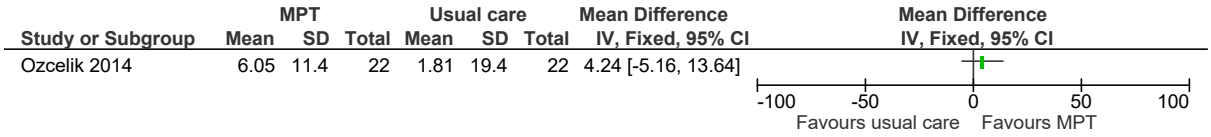

Figure 51: Quality of life (EORTC QLQ-C30 - Role)

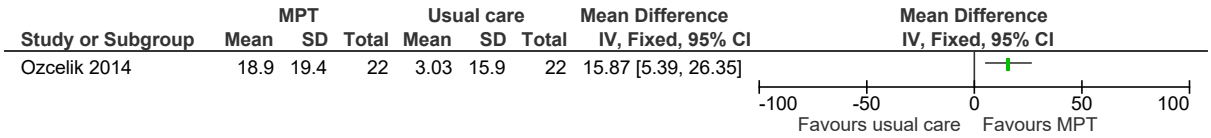

Figure 52: Quality of life (EORTC QLQ-C30 - Emotional)

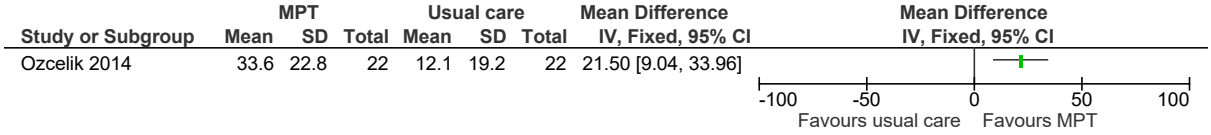

Figure 53: Quality of life (EORTC QLQ-C30 - Cognitive)

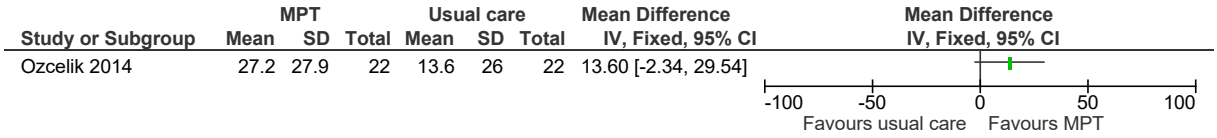

Figure 54: Quality of life (EORTC QLQ-C30 - Social)

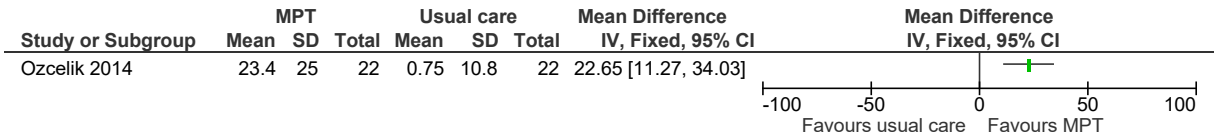

Figure 55: Quality of life (EORTC QLQ-C30 - Global)

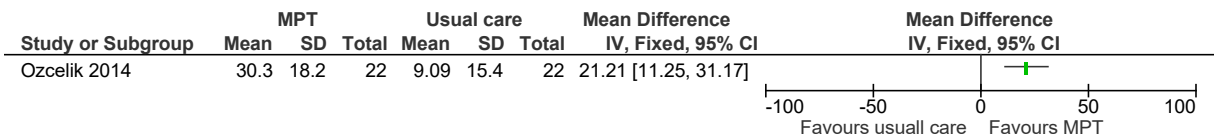

Figure 56: Patient reported outcomes – satisfaction (Patient satisfaction)

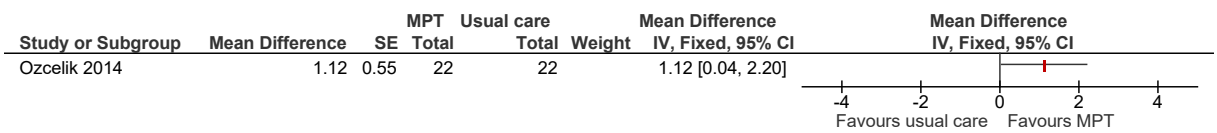

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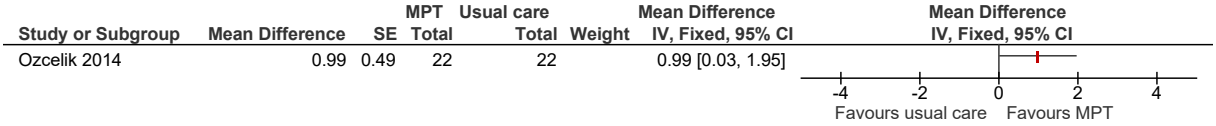
Figure 57: Carers reported outcomes – satisfaction (Family satisfaction)



E.9 MPT (hospice MPT and case management) versus usual care

Figure 58: Hospitalisation at 6 months prior to death

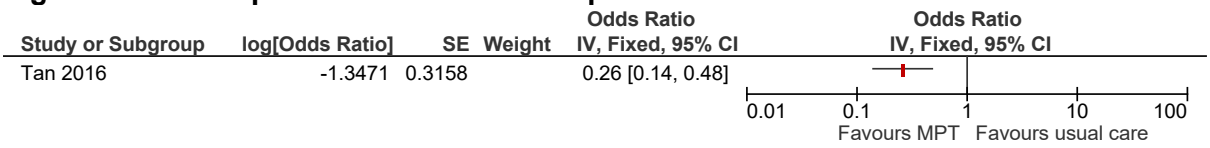


Figure 59: Hospitalisation at 3 months prior to death

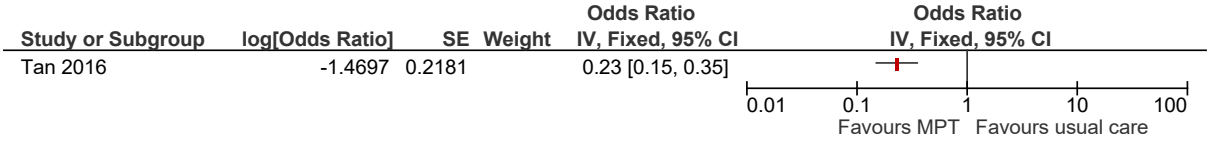


Figure 60: Hospitalisation at 1 month prior to death

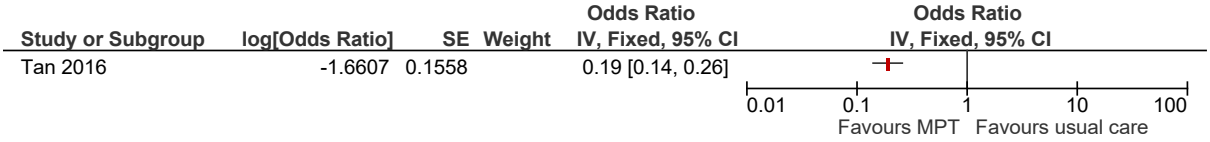


Figure 61: Number of visits to A&E in 6 months prior to death

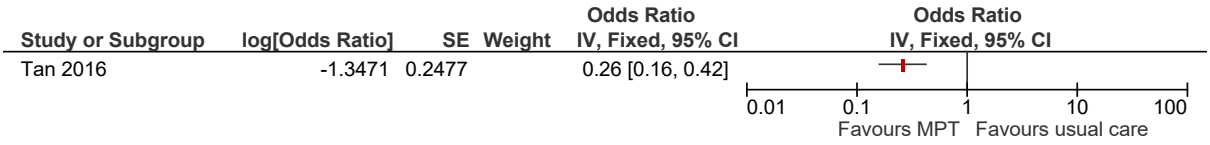


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Figure 62: Number of visits to A&E in 3 months prior to death

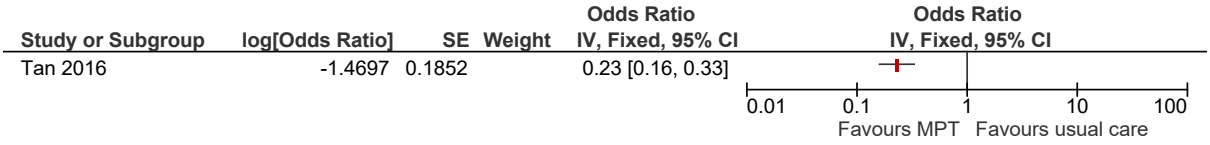


Figure 63: Number of visits to A&E in 1 month prior to death

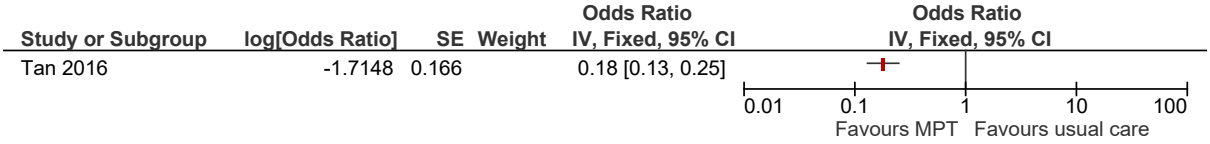


Figure 64: Location of death: home

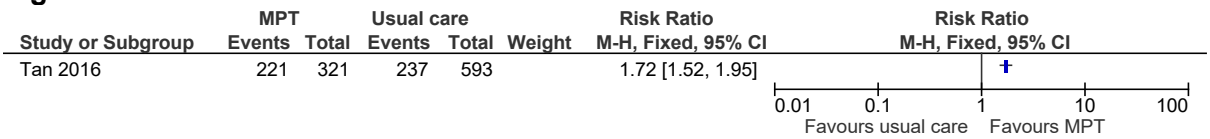


Figure 65: Location of death: inpatient hospice

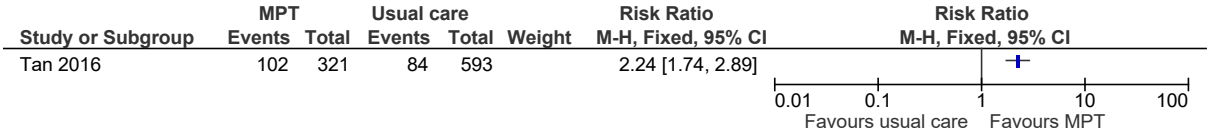


Figure 66: Location of death: hospital

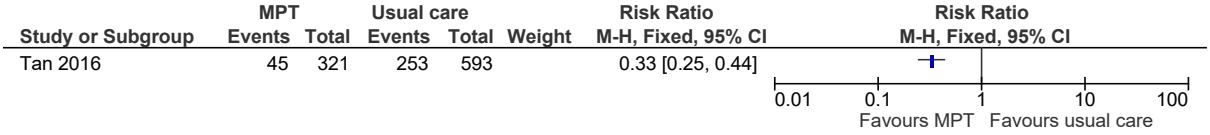
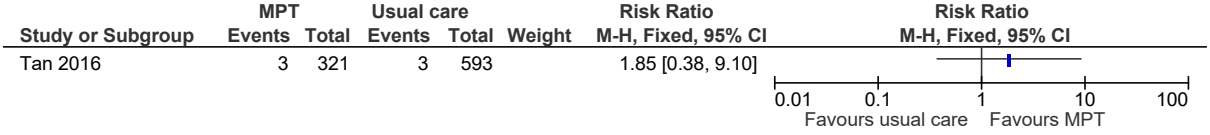


Figure 67: Location of death: nursing home



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Appendix F: GRADE tables

Table 19: Clinical evidence profile: Multiprofessional team (home based palliative care program) versus usual care

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	MPT (home-based palliative care program)	Usual care	Relative (95% CI)	Absolute		
People dying at home												
1	randomised trials	very serious[a]	no serious inconsistency	serious[b]	no serious imprecision	none	138/159 (86.8%)	56.8%	RR 1.53 (1.31 to 1.79)	301 more per 1000 (from 176 more to 449 more)	⊕OOO VERY LOW	CRITICAL
Number of hospital visits (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	161	139	-	MD 6.99 lower (9.46 to 4.52 lower)	⊕OOO VERY LOW	IMPORTANT
Number of visits to accident and emergency (ED visits) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	161	139	-	MD 1.37 lower (1.78 to 0.95 lower)	⊕OOO VERY LOW	IMPORTANT
Use of community services (physicians visits) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	161	139	-	MD 5.75 lower (8.9 to 2.6 lower)	⊕OOO VERY LOW	IMPORTANT
Use of community services (skilled nursing care visits) (Better indicated by lower values)												

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1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	161	139	-	MD 3.72 lower (6.2 to 1.24 lower)	⊕OOO VERY LOW	IMPORTANT
Use of community services (total home health visits) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	161	139	-	MD 21.8 higher (14.63 to 28.98 higher)	⊕OOO VERY LOW	IMPORTANT

[1] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[2] Downgraded by 1 or 2 increments because the majority of the evidence had indirect outcomes
[3] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 20: Clinical evidence profile: Multiprofessional team (in-home palliative care team) versus usual care

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**MPT (In-home palliative care service)**	**Usual care**	**Relative (95% CI)**	**Absolute**		
Hospitalisation (people hospitalised)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	52/145 (35.9%)	61.8%	RR 0.58 (0.45 to 0.75)	260 fewer per 1000 (from 154 fewer to 340 fewer)	⊕⊕⊕O	IMPORTANT
Number of visits to A&E (people accessing Emergency Department)												
1	randomised trials	serious[a]	no serious inconsistency	serious[b]	serious[c]	none	29/145 (20%)	32.9%	RR 0.61 (0.41 to 0.9)	128 fewer per 1000 (from 33 fewer to 194 fewer)	⊕OOO VERY LOW	IMPORTANT
Use of community services (people enrolled in hospice)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	36/145 (24.8%)	36.2%	RR 0.69 (0.48 to 0.98)	112 fewer per 1000 (from 7 fewer to 188 fewer)	⊕⊕OO LOW	IMPORTANT

Length of survival (days of survival after enrolment) (Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	145	152	-	MD 46 lower (87.51 to 4.49 lower)	⊕⊕⊕O	IMPORTANT

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment because the majority of the evidence had indirect outcomes
[c] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 21: Clinical evidence profile: Multiprofessional team (inpatient palliative care team) versus usual care

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	MPT (inpatient palliative care team)	Usual care	Relative (95% CI)	Absolute		
Use of community services (people admitted to hospice)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	103/275 (37.5%)	40.5%	RR 0.92 (0.74 to 1.15)	32 fewer per 1000 (from 105 fewer to 61 more)	⊕OOO VERY LOW	IMPORTANT
Patient/carer reported outcomes (doctor, nurses/other health professional providers) (Better indicated by higher values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	185	156	-	MD 0.6 higher (0.27 to 0.93 higher)	⊕OOO VERY LOW	IMPORTANT
Patient/carer reported outcomes (place of care environment scale) (Better indicated by higher values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	156	139	-	MD 0.4 higher (0.16 to 0.64 higher)	⊕OOO VERY LOW	IMPORTANT
Quality of life (self-reported quality of life, MCHPQ 0-10) (Better indicated by higher values)												
1	randomised trials	very serious[a]	no serious inconsistency	serious[c]	no serious imprecision	none	199	191	-	MD 0.1 higher (0.34 lower to 0.54 higher)	⊕OOO VERY LOW	CRITICAL

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[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs
[c] Downgraded by 1 or 2 increments because the majority of the evidence had indirect outcomes (proxy and patients combined responses)

Table 22: MPT (Palliative care team) versus usual care (telephone palliative care team)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	MPT (Palliative care team) versus usual care (telephone palliative care team)	Control	Relative (95% CI)	Absolute		
Length of stay in hospital (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious imprecision[3]	none	76	33	-	MD 1.5 higher (2.4 lower to 5.4 higher)	⊕⊕OO LOW	IMPORTANT
Readmissions (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	76	33	-	MD 0 higher (0.16 lower to 0.16 higher)	⊕⊕OO LOW	IMPORTANT
GP visits per day spent at home (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	serious[b]	no serious imprecision	none	76	33	-	MD 0.1 higher (0.42 lower to 0.62 higher)	⊕OOO VERY LOW	IMPORTANT
District nurse visits per day spent at home (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	serious[b]	no serious imprecision	none	76	33	-	MD 0.11 higher (13.16 lower to 13.38 higher)	⊕OOO VERY LOW	IMPORTANT
Patient satisfaction: information given about illness (Better indicated by higher values)												

1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	127	60	-	MD 0.2 higher (0.08 lower to 0.48 higher)	⊕⊕OO LOW	IMPORTANT
Patient satisfaction: information given about treatment and medication (Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	126	60	-	MD 0.1 higher (0.06 lower to 0.26 higher)	⊕⊕⊕O	IMPORTANT
Patient satisfaction: availability of doctors for discussion (Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	127	60	-	MD 0.1 higher (0.13 lower to 0.33 higher)	⊕⊕⊕O	IMPORTANT
Patient satisfaction: availability of nurses for discussions (Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	126	59	-	MD 0 higher (1.2 lower to 1.2 higher)	⊕⊕⊕O	IMPORTANT
Carer satisfaction: information giving (Better indicated by lower values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	64	38	-	MD 0.1 higher (0.26 lower to 0.46 higher)	⊕⊕OO LOW	IMPORTANT
Carer satisfaction: availability of care (Better indicated by lower values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	75	37	-	MD 0.1 higher (0.19 lower to 0.39 higher)	⊕⊕OO LOW	IMPORTANT
Carer satisfaction: physical patient care (Better indicated by lower values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	72	38	-	MD 0.1 lower (0.4 lower to 0.2 higher)	⊕⊕OO LOW	IMPORTANT

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Carer satisfaction: psychosocial care (Better indicated by lower values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	64	37	-	MD 0 higher (0.35 lower to 0.35 higher)	LOW	IMPORTANT
Days at home (Better indicated by higher values)												
1	randomised trials	very serious[a]	no serious inconsistency	serious[b]	no serious imprecision	none	76	33	-	MD 2.7 lower (5.95 lower to 0.55 higher)	⊕OOO VERY LOW	IMPORTANT

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 or 2 increments because the majority of the evidence had indirect outcomes
[c] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 23: Clinical evidence profile: Multiprofessional team (interdisciplinary team) versus Multiprofessional team (skilled nurses team)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**MPT (interdisciplinary team)**	**MPT (skilled nurses team)**	**Relative (95% CI)**	**Absolute**		
Length of survival (mortality at 6 months)												
1	randomised trials	serious[a]	no serious inconsistency	serious[b]	no serious imprecision	none	68/86 (79.1%)	77.7%	RR 1.02 (0.87 to 1.19)	16 more per 1000 (from 101 fewer to 148 more)	⊕⊕OO LOW	IMPORTANT
Length of survival (Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	86	85	-	MD 6.9 lower (27.17 lower to 13.37 higher)	⊕⊕⊕O	IMPORTANT

Length of survival (survival of people who died) (Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	68	66	-	MD 6.5 lower (21.94 lower to 8.94 higher)	⊕⊕⊕O	IMPORTANT
Length of stay (VA services - emergency room visits) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	86	85	-	MD 0.15 lower (0.41 lower to 0.11 higher)	⊕⊕OO LOW	IMPORTANT
Length of stay (VA services - extended care days) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	86	85	-	MD 0.38 higher (0.4 lower to 1.16 higher)	⊕⊕OO LOW	IMPORTANT
Length of stay (VA services - general bed days) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	86	85	-	MD 6.43 lower (10.29 to 2.57 lower)	⊕OOO VERY LOW	IMPORTANT
Length of stay (VA services - intensive care hospital days) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	86	85	-	MD 0.32 lower (1.15 lower to 0.51 higher)	⊕⊕OO LOW	IMPORTANT
Length of stay (VA services - intermediate bed days) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	86	85	-	MD 1.48 higher (0.9 lower to 3.86 higher)	⊕⊕OO LOW	IMPORTANT
Length of stay (VA services - outpatient clinic visits) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	86	85	-	MD 1.86 lower (3.22 to 0.5 lower)	⊕OOO VERY LOW	IMPORTANT
Length of stay (VA services - rehabilitation days) (Better indicated by lower values)												

1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	86	85	-	MD 1.86 lower (3.22 to 0.5 lower)	⊕⊕OO LOW	IMPORTANT
Length of stay (VA services - total days) (Better indicated by lower values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	86	85	-	MD 5.92 lower (11.03 to 0.81 lower)	⊕OOO VERY LOW	IMPORTANT

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment because the majority of the evidence had indirect outcomes (not a measure of length of survival)
[c] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 24: Clinical evidence profile: Multiprofessional team (cancer palliative care team) versus usual care

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**MPT (cancer palliative care team)**	**Usual care**	**Relative (95% CI)**	**Absolute**		
Use of community services (patients referred to hospital, nursing home or hospice)												
1	observational studies	very serious[a]	no serious inconsistency	serious[b]	very serious[c]	none	29/209 (13.9%)	16%	RR 0.87 (0.51 to 1.47)	21 fewer per 1000 (from 78 fewer to 75 more)	⊕OOO VERY LOW	IMPORTANT

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment because the majority of the evidence had indirect outcomes (includes other hospital)
[c] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 25: Clinical evidence profile: Multiprofessional team (palliative medicine unit team) versus usual care

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**MPT (palliative medicine unit team)**	**Usual care**	**Relative (95% CI)**	**Absolute**		
Preferred and actual place of death (death at home)												
1	randomised trials	very serious[a]	no serious inconsistency	serious[b]	serious[c]	none	54/219 (24.7%)	14.8%	RR 1.67 (1.09 to 2.55)	99 more per 1000 (from 13 more to 229 more)	⊕OOO VERY LOW	CRITICAL
Preferred and actual place of death (death at a nursing home) -												
1	randomised trials	very serious[a]	no serious inconsistency	serious[b]	serious[c]	none	19/219 (8.7%)	20.5%	RR 0.42 (0.25 to 0.71)	119 fewer per 1000 (from 59 fewer to 154 fewer)	⊕OOO VERY LOW	CRITICAL
Preferred and actual place of death (death in the hospital) last month before death												
1	randomised trials	very serious[a]	no serious inconsistency	serious[b]	no serious imprecision	none	146/219 (66.7%)	64.8%	RR 1.03 (0.89 to 1.19)	19 more per 1000 (from 71 fewer to 123 more)	⊕OOO VERY LOW	CRITICAL
Hospitalisation												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	182/219 (83.1%)	86.9%	RR 0.96 (0.88 to 1.04)	35 fewer per 1000 (from 104 fewer to 35 more)	⊕⊕OO LOW	IMPORTANT
Use of community services (patients admitted to nursing home) last month before death												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	serious[c]	none	28/219 (12.8%)	23.9%	RR 0.54 (0.35 to 0.83)	110 fewer per 1000 (from 41 fewer to 155 fewer)	⊕OOO VERY LOW	IMPORTANT
Length of stay (n of days under observation at nursing home) last month before death												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	219	176	-	MD 7.4 lower (12.77 to 2.03 lower)	⊕⊕OO LOW	IMPORTANT
Length of stay (n of days under observation in hospital) last month before death												

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1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	219	176	-	MD 0.2 higher (6.57 lower to 6.97 higher)	⊕⊕OO LOW	IMPORTANT
Length of stay (n of inpatients days at nursing home) last month before death												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	219	176	-	MD 2.1 lower (3.76 to 0.44 lower)	⊕⊕OO LOW	IMPORTANT
Length of stay (n of inpatients days at hospital) last month before death												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	219	176	-	MD 0.3 lower (2.22 lower to 1.62 higher)	⊕⊕OO LOW	IMPORTANT

[1] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[2] Downgraded by 1 increment because the majority of the evidence had indirect outcomes
[3] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 26: Clinical evidence profile: Multiprofessional team (home-based palliative care service) versus Usual care

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**MPT (home-based palliative care service)**	**Usual care**	**Relative (95% CI)**	**Absolute**		
Quality of life (QALYs) (follow-up mean 6 months; range of scores: 0-1; Better indicated by higher values)												
1	randomised trials	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	36	36	-	MD 0.03 higher (0 to 0.06 higher)	⊕⊕OO LOW	CRITICAL

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias

Table 27: Clinical evidence profile: Multiprofessional team (home-based palliative care service) versus Usual care

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	MPT (palliative care case management)	Usual care	Relative (95% CI)	Absolute		
Quality of life (EORTC QLQ-C30 - Physical) (follow-up mean 2 years; range of scores: 0-100; Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	22	22	-	MD 4.24 higher (5.16 lower to 13.64 higher)	⊕⊕OO LOW	CRITICAL
Quality of life (EORTC QLQ-C30 - Role) (follow-up mean 2 years; range of scores: 0-100; Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	22	22	-	MD 15.87 higher (5.39 to 26.35 higher)	⊕⊕OO LOW	CRITICAL
Quality of life (EORTC QLQ-C30 - Emotional) (follow-up mean 2 years; range of scores: 0-100; Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	22	22	-	MD 21.5 higher (9.04 to 33.96 higher)	⊕⊕OO LOW	CRITICAL
Quality of life (EORTC QLQ-C30 - Cognitive) (follow-up mean 2 years; range of scores: 0-100; Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	22	22	-	MD 13.6 higher (2.34 lower to 29.54 higher)	⊕⊕OO LOW	CRITICAL
Quality of life (EORTC QLQ-C30 - Social) (follow-up mean 2 years; range of scores: 0-100; Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	22	22	-	MD 22.65 higher (11.27 to 34.03 higher)	⊕⊕OO LOW	CRITICAL
Quality of life (EORTC QLQ-C30 - Global) (follow-up mean 2 years; range of scores: 0-100; Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	very serious[b]	none	22	22	-	MD 21.21 higher (11.25 to 31.17 higher)	⊕OOO VERY LOW	CRITICAL

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Patient satisfaction (follow-up mean 2 years; range of scores: 1-5; Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	22	22	-	MD 1.12 higher (0.04 to 2.2 higher)	⊕⊕OO LOW	IMPORTANT
Family satisfaction (follow-up mean 2 years; range of scores: 1-5; Better indicated by higher values)												
1	randomised trials	serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	22	22	-	MD 0.99 higher (0.03 to 1.95 higher)	⊕⊕OO LOW	IMPORTANT

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs

Table 28: MPT (hospice MPT and case management) versus usual care

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**MPT (hospice MPT and case management) versus usual care**	**Control**	**Relative (95% CI)**	**Absolute**		
Hospitalisation at 6 months prior to death												
1	observational studies	very serious[a]	no serious inconsistency	no serious indirectness	Serious[b]	none	284/321 (88.5%)	95.6%	OR 0.26 (0.14 to 0.48)	106 fewer per 1000 (from 43 fewer to 203 fewer)	⊕OOO VERY LOW	IMPORTANT
Hospitalisation at 3 months prior to death												
1	observational studies	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	238/321 (74.1%)	90.6%	OR 0.23 (0.15 to 0.35)	218 fewer per 1000 (from 135 fewer to 316 fewer)	⊕OOO VERY LOW	IMPORTANT
Hospitalisation at 1 month prior to death												

1	observational studies	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	125/321 (38.9%)	72%	OR 0.19 (0.14 to 0.26)	392 fewer per 1000 (fro 319 fewer to 455 fewer)	⊕OOO VERY LOW	IMPORTANT
Number of visits to A&E at 6 months prior to death												
1	observational studies	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	270/321 (84.1%)	93.6%	OR 0.26 (0.16 to 0.42)	144 fewer per 1000 (from 76 fewer to 236 fewer)	⊕OOO VERY LOW	IMPORTANT
Number of visits to A&E at 3 months prior to death												
1	observational studies	very serious[a]	no serious inconsistency	no serious indirectness	serious[b]	none	216/321 (67.3%)	87%	OR 0.23 (0.16 to 0.33)	264 fewer per 1000 (from 182 fewer to 353 fewer)	⊕OOO VERY LOW	IMPORTANT
Number of visits to A&E at 1 month prior to death												
1	observational studies	very serious[a]	no serious inconsistency	no serious indirectness	no serious imprecision	none	100/321 (31.2%)	65.9%	OR 0.13 to 0.25)	401 fewer per 1000 (from 333 fewer to 458 fewer)	⊕OOO VERY LOW	IMPORTANT
Location of death: home												
1	observational studies	very serious[a]	no serious inconsistency	serious[3]	no serious imprecision	none	221/321 (68.8%)	40%	RR 1.72 (1.52 to 1.95)	288 more per 1000 (from 208 more to 380 more)	⊕OOO VERY LOW	IMPORTANT
Location of death: inpatient hospice												
1	observational studies	very serious[a]	no serious inconsistency	serious[2,4]	no serious imprecision	none	102/321 (31.8%)	14.2%	RR 2.24 (1.74 to 2.89)	176 more per 1000 (from 105 more to 268 more)	⊕OOO VERY LOW	IMPORTANT
Location of death: hospital												

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1	observational studies	very serious[a]	no serious inconsistency	serious[3]	no serious imprecision	none	45/321 (14%)	42.7%	RR 0.33 (0.25 to 0.44)	286 fewer per 1000 (from 239 fewer to 320 fewer)	⊕OOO VERY LOW	IMPORTANT
Location of death: nursing home												
1	observational studies	very serious[a]	no serious inconsistency	serious[3]	serious[2]	none	3/321 (0.93%)	0.5%	RR 1.85 (0.38 to 9.1)	4 more per 1000 (from 3 fewer to 41 more)	⊕OOO VERY LOW	IMPORTANT

[a] Downgraded by 1 increment if the majority of the evidence was at high risk of bias, and downgraded by 2 increments if the majority of the evidence was at very high risk of bias
[b] Downgraded by 1 increment if the confidence interval crossed one MID or by 2 increments if the confidence interval crossed both MIDs
[c] Downgraded by 1 or 2 increments because the majority of the evidence had indirect outcomes
[d] Upgraded due to large effect size.

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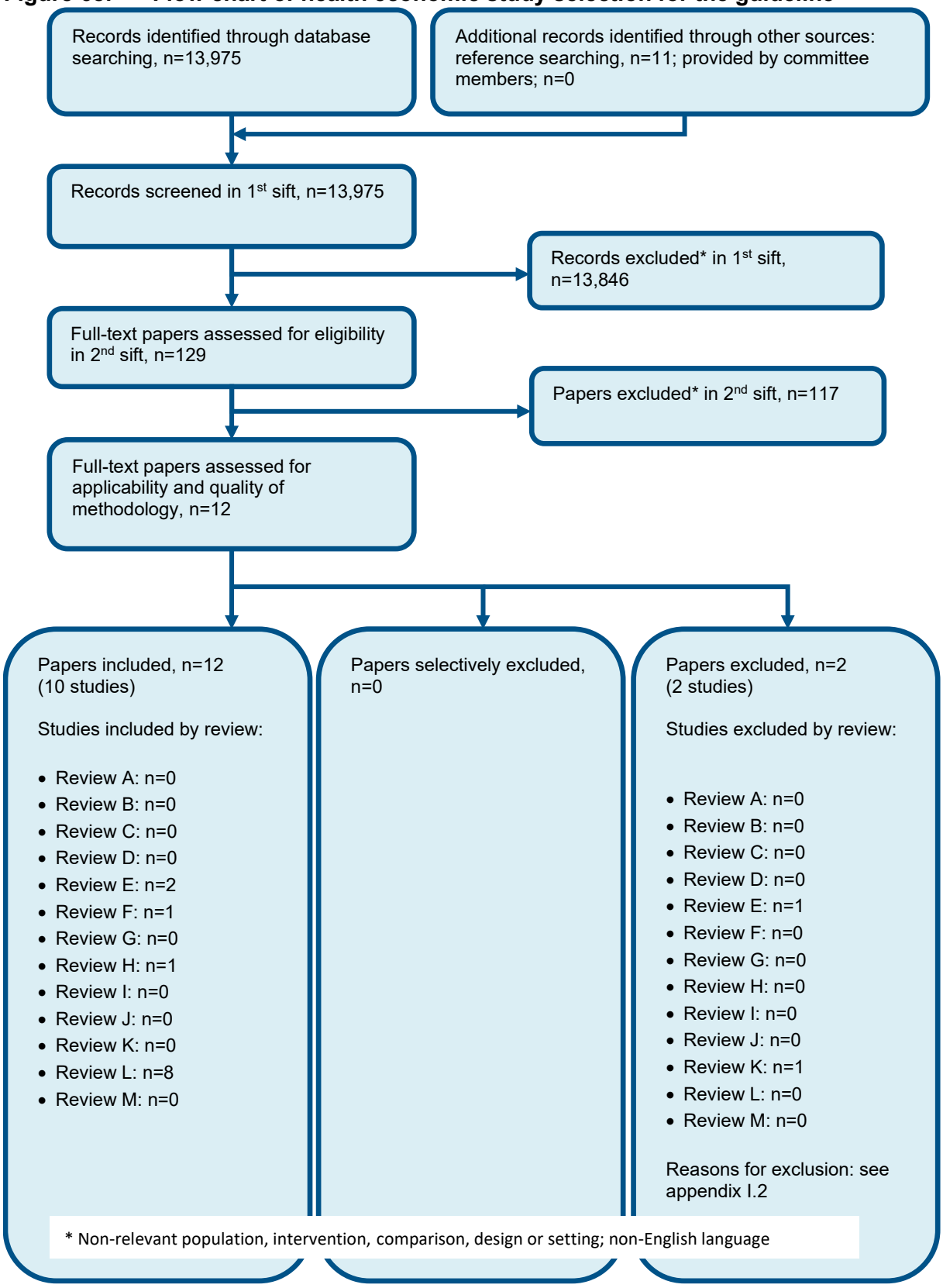
Appendix G: Health economic evidence selection

Figure 68: Flow chart of health economic study selection for the guideline



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Appendix H: Health economic evidence tables

Study	Sahlen 2016 [189]			
Study details	Population & interventions	Costs	Health outcomes	Cost-effectiveness
Economic analysis: CUA (health outcome: QALYs) Study design: Economic evaluation alongside an RCT Approach to analysis: An RCT assessing the effect of introducing a person centred integrated heart failure and palliative home care service. Data collected included cost estimates for healthcare, and patient responses to the EQ-5D quality of life instrument. Perspective: Swedish provider perspective Time horizon/Follow-up 6 months	Population: Confirmed diagnosis of CHF according to criteria of European Society of Cardiology, NYHA functional class 3 symptoms, one of: hospitalised episode of worsening heart failure that resolved with the injection/infusion of diuretics or addition of other heart failure treatment in the preceding 6 months; the need for frequent or continual iv support; chronically poor quality of life; signs of cardiac cachexia; and life expectancy of <1 year. Patient characteristics: N=72 (36 intervention group, 36 control group) Mean age: NR Male: NR Intervention 1: Standard care: standard care usually provided by a primary health care centre or the nurse-led heart failure clinic at the	Total costs (mean per patient): Intervention 1:£970 Intervention 2: £691 Incremental (2−1): saves £279 (95% CI: NR; p=NR) Currency & cost year: 2012 Euros (presented here as 2012 UK pounds[(a)]) Cost components incorporated: Costs of primary health care and hospital based care. Costs were calculated by multiplying the allocated time given for each service by the average salaries of the staff providing the services.	Change in QALYs (from initial QoL utility value at the start of study to after 6 months follow-up; mean per patient): Intervention 1: -0.012 Intervention 2: 0.003 Incremental (2−1): 0.015 (95% CI: NR; p=NR)	ICER (Intervention 2 versus Intervention 1): Intervention 2 dominates intervention 1 95% CI: NR Analysis of uncertainty: A sensitivity analysis was performed using the standard cost model for Sweden that was developed by the HCM Healthcare Management in October 2011. Using these costs significantly higher costs were derived because this model includes the costs of overheads, travel expenses and so on for each item. In the sensitivity analysis costs were still lower in the intervention group.

Study	Sahlen 2016 [189]			
Discounting: Costs: NA; Outcomes: NA	hospital. Full access to hospital-based emergency care. Intervention 2: Multiprofessional team service: Patients offered a multiprofessional approach involving collaboration between specialists in palliative and heart failure care (specialised nurses, palliative care nurses, cardiologist, palliative care physician, physiotherapist, and occupational therapist). Full access to hospital-based emergency care.			
Data sources				
Health outcomes: Quality of life EQ-5D questionnaire answered by study participants at inclusion of the study and at the end of the project (after 6 months). Quality-of-life weights: The study does not report what tariff was used. Cost sources: Costs were calculated by multiplying the allocated time for given services by the average salaries. Physician salary was sourced from Statistics Sweden + 50% VAT and employers' charges and overhead, costs of hospital care (emergency and inpatient care) were sourced from the average costs for a hospital stay in Västerbotten County.				
Comments				
Source of funding: The Swedish Association of Local Authorities and Regions, the Strategic Research Program in Health Care Sciences (SFO-V), "Bridging Research and Practice for Better Health, Sweden", the Swedish Heart and Lung Association, Konung Gustav V och drottning Viktorias frimurarstiftelse and the Rönnbäret Fund Skellefteå Municipality. Applicability: Study conducted in Sweden. The study is not looking at the best composition of a multiprofessional team but it is comparing having an MPT compared to not having an MPT. Limitations: The intervention has more elements to it than just the implementation of a multiprofessional team and therefore the positive outcomes cannot be attributed to the MPT care alone. It is not possible to disaggregate the effect that implementing the MPT had on outcomes. Offering structured palliative care at home with easy access to care was also a large part of the intervention that was not available to the control group. The study has a small sample size (total of 72 participants). Other:				
Overall applicability:(b) Partially applicable Overall quality(c) Very serious limitations				

Abbreviations: 95% CI: 95% confidence interval; CHF: Chronic heart failure; CUA: cost-utility analysis; EQ-5D: Euroqol 5 dimensions (scale: 0.0 [death] to 1.0 [full health], negative values mean worse than death); ICER: incremental cost-effectiveness ratio; NR: not reported; NYHA: new York heart association; QALYs: quality-adjusted life years
(a) Converted using 2012 purchasing power parities[172]
(b) Directly applicable / Partially applicable / Not applicable

(c) Minor limitations / Potentially serious limitations / Very serious limitations

Study	**Ozcelik 2014[174]**			
Study details	Population & interventions	Costs	Health outcomes	Cost-effectiveness
Economic analysis: CCA Study design: Economic evaluation alongside an RCT Approach to analysis: A block RCT where patients were divided randomly according to age, sex and education level into the intervention group (where they received a multiprofessional approach to their care) or the control group (where they received oncologist led standard care). They reported outcomes from a diagnosis system, performance scale, quality of life scale, a patient and family satisfaction form and a patient cost record form. Perspective: Turkish healthcare system	Population: Patients with acute need for palliative care, aged older than 18 years, advanced stage cancer, with a life expectancy of between 6 to 12 months. Cohort settings: N=44 Mean age: Intervention 1:53.63 ± 12.31 Intervention 2:52.59 ± 13.31 Male: Intervention 1: 7 (31.8%) Intervention2: 4 (18.2%) Intervention 1: Standard care: An oncologist obtained medical history, examined the patient, and ordered various tests. Treatment plans were made, and orders given to ward nurses. The nurses provided the treatment, according to doctors' orders and implemented usual nursing care. Intervention 2:	Total costs (mean per patient): Intervention 1: £57,413 Intervention 2: £48,769 Incremental (2−1): saves £8,644 (95% CI: NR; p=NR) Currency & cost year: 2012 US dollars (presented here as 2012 UK pounds(b)) Cost components incorporated: Direct health expenditure which consisted of all expenses incurred while in hospital. For example, medicines used from the start of the patient's stay in hospital, medical equipment, laboratory and diagnosis tests, consultations, professional care and hospital stay expenses (including those of companions).	The change in EORTC QLQ-C30 Quality of life questionnaire, Global quality of life*(mean per patient; 0-100): Intervention 1: -9.09 Intervention 2: -30.3 Incremental (2−1): -39.39 (95% CI: NR; p=NR) Patient satisfaction (0-5): Intervention 1: 3.27 Intervention 2: 4.15 Incremental (2-1): 0.88 Family satisfaction (0-5): Intervention 1: 3.07 Intervention 2: 4.06 Incremental (2-1): 0.99	ICER (Intervention 2 versus Intervention 1): NA 95% CI: NA Analysis of uncertainty: No sensitivity analysis was reported.

Study	Ozcelik 2014[174]			
Time horizon/Follow-up 2 years Treatment effect duration:(a) 6 months Discounting: Costs: not discounted; Outcomes: not discounted	Multiprofessional team service: Immediate consultation and follow up in the case management by the palliative care team (including a medical oncologist, a case manager nurse, and a clinical nurse, an algologist, a psychiatrist, a physical therapy expert, a social services expert, and a liaison consultant nurse with a doctorate in psychiatry) based on a philosophy of multiprofessional care. After a comprehensive diagnosis, effective symptom management, psychological stress management, social support, care and training support, and family counselling services were organised.			
Data sources				
Health outcomes: Data from the study participants completing the EORTC QLQ-C30 quality of life and patient and family satisfaction questionnaires. Quality-of-life weights: NR Cost sources: The direct health costs were recorded at the time of discharge on the expenses form in the patient's file by referring to the clinic secretary's patient expenses record at Tulay Aktas Oncology Hospital, Medical Oncology Clinic, Ege University and Hospital.				
Comments				
Source of funding: The authors received no financial support for the research, authorship or publication. Applicability: Study conducted in Turkey therefor not directly relevant to service delivery in the UK. The study is not looking at the best composition of a multiprofessional team; it is comparing having an MPT to not having an MDT. Limitations: The intervention had more elements to it than just the implementation of a multiprofessional team it included symptom assessment measurement in the clinic using the Edmonton Symptom Assessment System (ESAS) and they used the palliative care protocol in advanced care planning. It is therefore difficult to attribute the positive outcomes and lower costs to the fact that the intervention group received care provided by an MPT. The study has a small sample size (total of 44 participants). Other:				

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Study	Ozcelik 2014[174]
Overall applicability:(c) Partially applicable	Overall quality(d) Very serious limitations

Abbreviations: CCA: cost-consequence analysis; 95% CI: 95% confidence interval; ICER: incremental cost-effectiveness ratio; NR: not reported; QALYs: quality-adjusted life years

(a) For studies where the time horizon is longer than the treatment duration, an assumption needs to be made about the continuation of the study effect. For example, does a difference in utility between groups during treatment continue beyond the end of treatment and if so for how long.

(b) Converted using 2014purchasing power parities[172]

(c) Directly applicable / Partially applicable / Not applicable

(d) Minor limitations / Potentially serious limitations / Very serious limitations

**For this measurement the lower the scorer the better the quality of life.*

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Appendix I: Excluded studies

I.1 Excluded clinical studies

Table 29: Studies excluded from the clinical review

Study	Exclusion reason
Addington-Hall 1992[1]	Incorrect interventions
Ahlner-Elmqvist 2004[2]	Incorrect interventions
Ahmed 2002[3]	Systematic review is not relevant to review question or unclear PICO
Aiken 2006[4]	Incorrect interventions
Alfaya Ggongora Mdel 2016[5]	Inappropriate study design
Allen 2012[6]	Inappropriate study design
Almack 2012[7]	Incorrect interventions. Inappropriate study design
Alsirafy 2015[8]	Inappropriate comparison
Anonymous 1999[9]	Inappropriate study design
Anonymous 2005[10]	Inappropriate study design
Anonymous 2009[11]	Inappropriate study design
Arriola 2003[12]	Not review population
Badger 2009[13]	Incorrect interventions
Bainbridge 2015[14]	Inappropriate study design
Bainbridge 2016[15]	Inappropriate study design
Bajwah 2015[16]	Incorrect interventions
Baker 2012[17]	Incorrect interventions
Bakitas 2009[18]	Incorrect interventions
Becker 2017[19]	inappropriate study design
Becze 2007[20]	Inappropriate study design
Bekelman 2015[21]	Not guideline condition. Not review population
Bekelman 2016[22]	Incorrect interventions
Beklman 2018{Bekelman, 2018 #3537}	Inappropriate intervention and not review population
Bergman 2016[23]	Inappropriate study design
Bernacki 2015[24]	Incorrect interventions. Inappropriate study design
Biernacki 2015[25]	Not review population
Bliss 2003[26]	Inappropriate study design
Boyd 1995[28]	Inappropriate study design
Boyd 2009[29]	Inappropriate study design
Boyd 2010[27]	Incorrect interventions. Inappropriate study design
Brajtman 2005[30]	Inappropriate study design. Incorrect interventions
Branch 1995[31]	Not review population
Brandt 2001[32]	Inappropriate study design
Brogaard 2011[33]	inappropriate study design
Brumley 2002[35]	Unclear comparator. Inappropriate comparison
Callahan 2001[37]	Incorrect interventions. Inappropriate study design

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Study	Exclusion reason
Candy 2011[38]	Not relevant to PICO
Carduff 2014[39]	Incorrect interventions. Inappropriate study design
Casarett 2011[40]	inappropriate study design
Cheng 2013[41]	Incorrect interventions
Cheung 2010[42]	Incorrect interventions
Coldewey 1993[43]	Incorrect interventions. Inappropriate study design
Connolly 2015[44]	Incorrect interventions. Inappropriate study design
Constantini 2003[46]	Incorrect interventions
Corr 1998[45]	Inappropriate study design
Crawford 2002[47]	inappropriate study design
Crawford 2003[48]	Inappropriate study design
Daly 2000[50]	Inappropriate study design
Daly 2013[51]	Incorrect interventions. Inappropriate study design
Daniels 2001[52]	inappropriate study design
Davison 2012[53]	Inappropriate study design
Deja 2006[54]	inappropriate study design
Desmedt 2002[55]	Inappropriate study design
Detering 2010[56]	Incorrect interventions
Devlin 2009[57]	Inappropriate study design
Downar 2013[58]	Inappropriate study design . Incorrect interventions
Dudgeon 2009[59]	inappropriate study design
Ellen Netting 1999[60]	inappropriate study design
Emanuel 1991[61]	Incorrect interventions. Not review population
Enguidandos 2005[62]	Not review population
Ennis 2015[63]	Incorrect interventions. Inappropriate study design
Fendler 2015[64]	Inappropriate study design
Feuz 2013[65]	inappropriate study design
Feuz 2014[66]	Inappropriate study design. Incorrect interventions
Finkelstein 2015[67]	Does not match PICO
Forster 2005[68]	not relevant population
Friedman 2016[69]	inappropriate study design
Frost 1999[70]	Inappropriate study design
Gaertner 2012[72]	Inappropriate comparison (no details for MPT in the control group. Comparison of different models for palliative care, not MPT)
Gaertner 2017[73]	Relevant to a number of questions
Gage 2015[74]	Incorrect interventions
Gardner 2002[76]	inappropriate study design
Gardner-Nix 1995[75]	inappropriate study design
Garralda 2016[77]	inappropriate study design
Gillett 2017[78]	inappropriate study design
Gomes 2013[79]	Inappropriate study design . Incorrect interventions
Gordon 2012[80]	inappropriate study design
Gow 1999[81]	not relevant population
Grande 1999[82]	Not review population. Incorrect interventions
Grande 2000[83]	Incorrect interventions. Not review population
Grogan 2016[84]	Inappropriate study design

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Study	Exclusion reason
Hall 2011[85]	Not relevant to PICO
Hanson 2005[87]	not relevant population
Harrison Dening 2018{Harrison Dening, 2018 #3518}	Inappropriate study design. No comparison
Head 2010[88]	Not review population. Incorrect interventions
Health Quality Ontario 2014[89]	Systematic review: literature search not sufficiently rigorous
Heath 2010[90]	Inappropriate study design. Not review population
Higginson 2002[92]	inappropriate study design
Higginson 2003[93]	inappropriate study design
Higginson 2010[91]	Systematic review is not relevant to review question or unclear PICO
Hill 1998[94]	Inappropriate study design
Hockley 1996[95]	inappropriate study design
Hodgen 2002[96]	not relevant population
Hoek 2017[97]	not review population/inappropriate intervention
Hollingworth 2016[98]	inappropriate intervention
Hong 2015[99]	Not review population
Horey 2012[100]	Incorrect interventions
Houben 2014[101]	Incorrect interventions. Inappropriate study design
Houston 1995[102]	inappropriate study design
Hughes 2000[104]	Inappropriate population
Hui 2015[105]	Inappropriate study design
Hummel 2017[106]	Inappropriate comparison
Hussainy 2011[107]	inappropriate study design
Ingleton 2011[108]	inappropriate study design
Iwase 2007[109]	No relevant outcomes
Jacobson 2010[110]	Inappropriate study design
Johnson 2012[111]	Incorrect interventions
Johnston 2018{Johnston, 2018 #3526}	Inappropriate study design (non-comparative)
Kasper 2002[115]	not review population
Kayser-Jjones 2005[116]	Case series
Kenny 2012[117]	Inappropriate study design
Kirby 2014[118]	Inappropriate study design. Incorrect interventions
Kuruvilla 2018{Kuruvilla, 2018 #3545}	Not review population
Klaasen 2009[119]	Not review population
Klarare 2013[120]	Inappropriate study design
Klinger 2014[121]	Incorrect interventions. Inappropriate study design
Knight 2007[122]	Inappropriate study design (audit report). Incorrect interventions
Koczywas 2013[123]	Incorrect interventions. Phase 1 of study
Lamba 2013[124]	Inappropriate study design. Incorrect interventions
Lamont 2016[125]	Inappropriate study design. Incorrect interventions
Leclerc 2014[126]	Systematic review is not relevant to review question or unclear PICO
Levesque 1993[127]	Inappropriate study design

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Study	Exclusion reason
Lingard 2004[128]	Not guideline condition. Inappropriate study design
Llobera 2017[129]	inappropriate study design
Lloyd-Williams 2003[130]	Inappropriate study design. Incorrect interventions
Long 1997[131]	Unable to locate
Lu 2016[132]	inappropriate study design
Luckett 2014[134]	Systematic review is not relevant to review question or unclear PICO
Luckett 2017[133]	not review population
Macdonald 1994[135]	Incorrect interventions
Macmahon 1999[136]	Not review population. Incorrect interventions. Inappropriate study design
Madden 2014[138]	Inappropriate study design. Not guideline condition
Maeyama 2003[139]	Inappropriate study design
Mahmood-Yousuf 2008[140]	Inappropriate study design
Main 2006[141]	Incorrect interventions. Inappropriate study design
Marie Curie Cancer Care 2012[142]	Incorrect interventions. Inappropriate study design
Marsh 2008[143]	Inappropriate study design. Not review population
Martin 2010[144]	inappropriate study design
Martoni 2017[145]	inappropriate intervention
McIllmurray 1998[146]	inappropriate study design
Meier 2004[148]	Inappropriate study design (protocol)
Meier 2010[147]	Incorrect interventions. Inappropriate study design
Melin 1995[149]	Not review population
Mellor 2004[150]	Inappropriate study design. Incorrect interventions
Miller 2007[151]	Not review population
Minetti 2011[152]	Inappropriate study design
Mitchell 2016[153]	in appropriate study design
Mitton 2007[154]	not relevant population
Modrcin 1988[155]	not relevant population
Morita 2005[156]	Inappropriate study design
Morrison 2011[157]	Inappropriate study design
Mullen 2017[158]	inappropriate study design
Munday 2007[159]	Inappropriate study design . Incorrect interventions
Murphy 2013[160]	not relevant population
Nagaviroj 2016[161]	Inappropriate comparison
Neergaard 2009[163]	Incorrect interventions. Inappropriate study design
Nelson 2010[165]	Inappropriate study design
Nelson 2011[164]	inappropriate comparison
Noome 2017[166]	inappropriate intervention
O'Connor 2016[167]	inappropriate study design
O'Donnell 2018{O'Donnell, 2018 #3539}	No outcomes
Ogelby 2014[170]	inappropriate study design
Oliver 2004[171]	inappropriate study design
O'Mahony 2000[168]	Inappropriate study design

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Study	Exclusion reason
O'Neill 1992[169]	inappropriate study design
Owens 2012[173]	inappropriate study design
Parker Oliver 2006[175]	Incorrect interventions. Inappropriate study design
Parsons 2012[176]	not relevant population
Pawlowska 2016[177]	Inappropriate study design
Pesut 2017[178]	inappropriate intervention
Pesut 2017[179]	inappropriate study design
Pinelle 2002[180]	Inappropriate study design
Porter-Williamson 2009[181]	Incorrect interventions. Inappropriate study design
Powazki 2015[182]	Incorrect interventions. Inappropriate study design
Radwany 2009[183]	Incorrect interventions. Inappropriate study design
Randstrom 2014[184]	Inappropriate study design
Reese 2001[185]	Inappropriate study design
Riolfi 2014[186]	Incorrect interventions
Rock 2003[187]	inappropriate study design
Ruiz-Iniguez 2017[188]	Not able to locate
Schoch 2012[190]	No relevant outcomes
Schrader 2002[191]	inappropriate comparison
Seamark 2014[192]	Incorrect interventions. Inappropriate study design
Seow 2014[193]	Incorrect interventions
Shafer 1977[194]	inappropriate study design
Shah 2002[195]	inappropriate study design
Shannon 1998[196]	Inappropriate study design
Shelby-James 2012[197]	Inappropriate study design
Sheppherd 1998[198]	Systematic review is not relevant to review question or unclear PICO
Sherr 1977[199]	Not review population. Incorrect interventions
Sherry 1994[200]	inappropriate study design
Shipman 2003[201]	inappropriate study design
Silbermann 2013[202]	Inappropriate study design
Siouta 2016[203]	Systematic review is not relevant to review question or unclear PICO
Skilbeck 2005[204]	Incorrect interventions
Smeenk 1998[205]	Systematic review is not relevant to review question or unclear PICO
Smith 1994[207]	Incorrect interventions. Inappropriate study design
Smith 2003[206]	inappropriate study design
Sommers 2000[208]	Not review population
Soukop 2007[209]	inappropriate study design
Stewart 2011[210]	Not review population. Incorrect interventions. Inappropriate study design
Stranges 2015[211]	Not review population
Street 2001[212]	Inappropriate study design
Strohscheer 2006[213]	Not review population. Incorrect interventions
Strong 2012[214]	Not review population. Inappropriate study design
Sun 2015[215]	Incorrect interventions

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Study	Exclusion reason
Tan 2014[216]	Systematic review is not relevant to review question or unclear PICO
Taylor Jr 2013[218]	Incorrect interventions. Inappropriate study design
Temkin-Greener 2017[219]	inappropriate study design
Teno 2004[220]	Incorrect interventions
Terashita-Tan 2013[221]	Inappropriate study design
The National Council for Palliative Care 2011[222]	Inappropriate study design . Incorrect interventions
Thomas 2015[223]	Not available for order
Valgus 2010[224]	Not review population
van de Mortel 2016[225]	not review population
Van der Plas 2014[226]	Inappropriate study design
van der Plas 2015[227]	inappropriate study design
Van der Plas 2015[229]	Inappropriate study design
van der Plas 2016[228]	inapporpirate study design
Vanbutsele 2015[230]	Inappropriate study design
Ventafridda 1990[231]	Inappropriate study design
Villarreal 2011[232]	Inappropriate study design
Walling 2017[233]	Not able to locate
Walshe 2008[234]	Incorrect interventions. Inappropriate study design
Weng 2017[235]	inappropriate intervention
Wiebe 2010[236]	Inappropriate study design
Wierzchowiecki 2006[237]	Not review population
Wilks 2009[238]	Not review population
Willingham 2005[239]	inappropriate intervention
Wittenberg-lyles 2010[240]	Inappropriate study design
Wootton 2010[241]	Not review population. Incorrect interventions
Yamada 2009[242]	inappropriate study design
Yang 2018{Yang, 2018 #3542}	Not review population
Yuen 2003[243]	Inappropriate study design
Zimmer 1985[244]	Not review population
Zimmermann 2008[245]	Systematic review is not relevant to review question or unclear PICO

I.2 Excluded health economic studies

Table 30: Studies excluded from the health economic review

Reference	Reason for exclusion
Vroomen 2012[137]	This study was assessed as not applicable as the study population was not specifically end of life.

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