Table 1 – *Summary of Included Studies*

Author, Year, Setting, Country Income Status	Aim(s)	Methodology	Population and Sample Size	Outcomes and Significant Findings	Limitations
Anderson, et al. 2022 New Zealand - HIC	*"To explore bereaved family members' experiences of emergency ambulance care at the end of life."*	Qualitative Individual Interviews	38 Family Caregivers	Key themes: 1) Supporting living and dying at home. 2) Urgent and unexpected events. 3) Reluctance in calling an ambulance. EMS providers play a vital role in providing palliative care. This should be integrated into policy, practice and training.	Possibility of self-selection and recall biases. Limited external validity.
Ausband, et al. 2002 USA - HIC	*"To determine the prevalence of palliative care protocols among EMS agencies in the United States, and to estimate the percentage of the U.S. population covered by such protocols".*	Descriptive Survey	121 EMS Agencies	5.8% of EMS Agencies have palliative care protocols. Thus, there is a lack of EMS palliative care protocols in the USA.	Response rate 60.5%. 'Palliative Care Protocol' was not defined. Thus, EMS palliative care protocols may be more or less prevalent than 5.8%.
Boaventura, et al. 2022 Brazil - LMIC	*"To identify the perception of health professionals regarding the concept of PC* [Palliative Care] *and their care experiences with this type of patient in a pre-hospital care (PHC) service in Brazil."*	Qualitative Individual Interviews	25 EMS Providers	Key themes: 1) Unpreparedness of the team. 2) Decision Making. 3) Dysthanasia. There is a need for EMS provider palliative care training and policy development in Brazil.	Possibility of self-selection and recall biases. Limited external validity.
Breyre, et al. 2021 USA - HIC	*"To provide a descriptive analysis of hospice and comfort care patient EMS utilization in Alameda County* [California, USA]*".*	Retrospective Cohort	534 Patient Records	0.2% (n=534) of EMS calls were for hospice patients. Of these, 468 (87.6%) were transported to hospital. Most commonly encountered symptoms: respiratory distress, altered mental status. Fentanyl	Some hospice patients potentially missed due to incomplete/inaccurate documentation and an inability to identify serial EMS calls from a single patient.

				administration was the most common intervention. Although EMS encountered hospice patients infrequently, they should be prepared for such cases.	
Breyre, et al. 2021 USA - HIC	*"To evaluate the effect of a Mobile Integrated Hospice Healthcare (MIHH) program including hospice education and expansion of paramedic scope of practice to use hospice medication kits".*	Retrospective Cohort	523 MIHH Cases	MIHH program reduced emergency department transport rates from 80.3% to 19.6%. The expanded scope medication kit was used only once. This collaboration between hospice and EMS systems was successful in reducing hospice patient transport to the emergency department, possibly improving hospice patient and family care.	No comparison with transport rates in non-hospice patients over the study period. Reasons for patient transport inconsistently documented. Method of screening for hospice patients may not have identified all eligible patients.
Breyre, et al. 2022 USA - HIC	*"To explore EMS provider challenges, self-perceived roles and training experiences caring for patients and families with life-limiting illness."*	Qualitative Individual Interviews	15 EMS Providers	Key themes: 1) In the moment decision making dilemmas. 2) Respond to varied grief reactions. 3) Disadvantaged/vulnerable populations have less access to care and advance care planning. 4) Transport people. 5) Holistic care. 6) Lack of formal training. Formal training of EMS providers in palliative care principles would empower them to care for patients with life-limiting illness.	Possibility of self-selection and recall biases. Limited external validity.
Burnod, et al. 2012 France - HIC	*"To evaluate whether patient's wishes were respected by prehospital emergency medical teams after implementing*	Retrospective Cohort	40 Patients	Collaboration between prehospital emergency teams and palliative care networks allows prehospital teams to access information relevant to	No limitations listed by the authors; however, the sample size was small.

	collaboration and a standardized process between a community-based palliative network and the Emergency Medical Service (EMS) system".			their patients and results in greater respect of palliative patient wishes (83% of the time compared with 40% where no collaboration exists).	
Carron, et al. 2014 Switzerland - HIC	To highlight *"end of-life and palliative care situations that may be encountered by prehospital emergency services".*	Retrospective Case Series	4 Cases	Palliative and prehospital emergency care may be complimentary approaches. Analysed cases demonstrate the need for palliative education in prehospital emergency teams and collaboration between EMS and palliative systems.	Limited review of 4 cases. Findings and suggestions are open to biased interpretations.
Carter, et al. 2022 Canada - HIC	*"To describe the essential elements, barriers, and facilitators for implementation, spread, and scale of the Program* [Paramedics Providing Palliative Care at Home] *from two perspectives: one system that implemented the Program and one system that had not, using the Consolidated Framework for Implementation Research (CFIR)."*	Qualitative Deliberative Dialogues	20 stakeholders (9 EMS Providers, 7 Palliative Providers, 2 Program Administrators, 1 Primary Care Provider, 1 Emergency Medicine Provider)	Key elements for implementation of the *Paramedics Providing Palliative Care at Home Program*: 1) Cosmopolitanism (outer setting). 2) Adaptability (intervention). 3) Implementation climate (inner setting). 4) Engagement and Planning (processes). Scaling this program would be beneficial for patient satisfaction and further paramedic confidence in caring for patients with palliative needs.	Possibility of self-selection and group biases. Lack of member-checking. Limited external validity.
Carter, et al. 2022 Canada - HIC	*"To explore, from the perspectives of paramedics and palliative health care providers, the alignment of a palliative care role with paramedic professional identity."*	Qualitative Focus Group Interviews	11 Paramedics, 20 Health Care Providers	Key themes concerning EMS provider role: 1) Patient centeredness and job satisfaction. 2) Bridging. 3) Advocate and educator. 4) Psychosocial support. Key themes concerning EMS provider	Possibility of self-selection and group biases. Limited external validity.

				identity: 1) Evolution of paramedicine as a skilled clinical profession. 2) Helping people and communities. 3) Paramedic skill set aligns with work in palliative care. 4) Changing paramedic mindset. Palliative care provision is well-aligned with EMS provider identity.	
Carter, et al. 2019 Canada - HIC	*"To determine the impact of the program* [Paramedics Providing Palliative Care at Home] *in two parts: Part A examined patient and family/caregiver satisfaction, and Part B measured paramedic comfort and confidence with the delivery of palliative care support".*	Mixed Methods: Part A: Telephonic Interviews, Surveys. Part B: Pre- vs. Post-Intervention Surveys.	Part A (Patients/Families): 18 Telephonic Interviews and 67 surveys. Part B (Paramedics): 235 Pre-Intervention Surveys and 267 Post-Intervention Surveys.	After programme implementation, paramedic comfort and confidence providing palliative and end-of-life care improved. Paramedics viewed palliative care as important and rewarding in their work. Furthermore, patient/family satisfaction was high. Families particularly highlighted paramedic compassion and professionalism.	Small sample size and low survey response rates. Time-lapse between paramedic arrival and patient/family interview.
Clemency, et al. 2019 USA - HIC	To *"describe a terminal extubation performed by a paramedic under the direct supervision of an Emergency Medical Services (EMS) physician".*	Case Report	1 Case	With guidance, terminal extubation is possible out-of-hospital. Allowing for EMS involvement in this and other palliative interventions would simplify logistics and allow patients the option of a home death.	Single case description.
Dent, et al. 2020 UK - HIC	To *"report the patient characteristics and outcomes of a*	Retrospective Cohort	45 Telephonic Calls	Telephonic advice service was associated with low rates of patient transport to hospital (16%,	Quality of advice not studied. Small sample size in a paramedic-led system

	24-hour hospice nursing telephone advice service to support an ambulance service".			n=7). Access to palliative advice can support ambulance clinicians and is feasible. Ambulance clinicians viewed this as an invaluable resource.	limiting external validity. Telephonic advice may not have been sought in all cases as EMS do not have a palliative care call-out category.
Donnelly, et al. 2018 USA - HIC	*"To assess the knowledge, attitudes, and experiences of EMS providers in the hospice care setting".*	Mixed Methods Cross-Sectional Survey	182 EMS Providers	Majority of EMS providers (84.1%, n=153) have managed a hospice patient at least once. 29.1% (n=53) reported receiving formal education on hospice patient care. EMS providers expressed a need for education and difficulties with communication and information in managing hospice patients.	Single-centre study, limiting external validity. Unvalidated survey.
Eaton-Williams, et al. 2020 UK - HIC	*"To assess whether ambulance paramedics currently identify EoLC patients, are aware of identification guidance and believe this role is appropriate for their practice".*	Cross-Sectional Online Survey	1643 Paramedics	Majority of paramedics (97.0%, n=1594) felt they should contribute to identifying end-of-life care needs. Current barriers to this role: lack of access to patient medical records, insufficient education and communication difficulties. Establishing end-of-life referral pathways and receiving education were identified as facilitators of this role.	Possibility of self-selection bias. Impossible to verify participants' qualifications and experience.
Fitzpatrick, et al. 2022 USA - HIC	*"To provide structured, evidence-based palliative and hospice education to CPs* [Community Paramedics]*."*	Pre- and Post-intervention Study	14 Community Paramedics	Paramedics play a role in the care of terminal patients. Formal palliative training within community paramedic programs should be implemented. The educational intervention of this	Small sample size. Unclear survey questions.

				study increased community paramedics' knowledge regarding EoL communication.	
Gage, et al. 2020 South Africa - LMIC	*"To gather the perspectives of advanced life support (ALS) providers within the South African private EMS sector regarding pre-hospital palliative care in terms of its importance, feasibility and barriers to its practice."*	Qualitative Individual Interviews	6 Paramedics	Key themes: 1) Need for pre-hospital palliative care. 2) Function of pre-hospital healthcare providers concerning palliative care. 3) Challenges to pre-hospital palliative care. 4) Ideas for implementing pre-hospital palliative care. Pre-hospital palliative care is needed in South Africa and EMS may play a valuable role.	Possibility of self-selection bias. Limited external validity.
Goodwin, et al. 2021 UK - HIC	*"To explore staff stakeholder views on the role of UK paramedics in advance care planning, including the use of the Gold Standards Framework Proactive Identification Guidance for screening and referral of patients".*	Qualitative Individual Interviews	17 Stakeholders (8 Paramedics, 4 General Practitioners, 2 Emergency Department Doctors, 2 Emergency Department Nurses, 1 Community Nurse)	Key themes: 1) A lack of advance care planning. 2) Variation across health conditions. 3) A lack of joined-up care. 4) Poor-quality end of life conversations. UK paramedics are well positioned to screen patients for advance care planning.	Possibility of self-selection and recall biases. Limited external validity.
Hauch, et al. 2021 Germany - HIC	To answer the questions: *"Which EMS operations occurred in the patients cared for in the SPHC* [Specialized Home Palliative Care]*, and how frequent were they?*	Retrospective Cohort	172 Paediatric Patient Records	Despite existence of a 24/7 specialised palliative home care service, some parents of children with palliative needs still contacted EMS in emergency situations (12%, n=20). Within	Small sample size. Limited external validity.

	What treatments were given, and what was the outcome? Which possible associated factors can be identified that triggered the emergency call?"			this group, EMS were contacted 27 times. These patients were less likely to have a do not resuscitate order, required more home visits and were under SPHC care for longer when compared to the non-EMS group. Collaboration between palliative and emergency services is needed.	
Hoare, et al. 2018 UK - HIC	*"To understand the role of ambulance staff in the admission to hospital of patients close to the end of life".*	Qualitative Individual Interviews	6 Ambulance Staff	Ambulance staff play an important role in end-of-life patient hospital admissions. Their ability to keep patients at home is hindered by: 1) The limited availability and accessibility of additional care support in the community. 2) The limited information ambulance staff had about the patient and their condition. 3) A perceived ambulance service emphasis on hospital care.	Possibility of self-selection and recall biases. Limited external validity.
James, et al. 2021 Australia - HIC	*"To understand paramedics' intentions to use a hypothetical Specialist Palliative Care telehealth service, based on their perceptions of the service (i.e. usefulness, ease of use, and attitude toward to the service) and their palliative care self-efficacy".*	Descriptive Online Survey	112 Paramedics	All variables were positively correlated with an intention to use a Specialist Palliative Care telehealth service apart from age and palliative care self-efficacy, which was negatively correlated. Thus, paramedics displayed a desire to use the service despite high palliative care self-efficacy ratings.	Possibility of self-selection bias. Desirability/positivity bias in that attitudes are often positive to new technology in a hypothetical scenario.

Juhrmann, et al. 2022 Australia - HIC	*"To examine the quality and content of existing Australian palliative paramedicine guidelines with a sample of guidelines from comparable Anglo-American ambulance services."*	Guideline Quality Appraisal and Qualitative Analysis	8 Palliative Care EMS Guidelines	Overall, guideline quality was poor to moderate according to the AGREE II instrument, however, this does not refer to clinical validity. Key themes from guideline analysis: 1) Audience and approach. 2) Communication is key. 3) Assessing and managing symptoms. 4) Looking beyond pharmaceuticals. 5) Seeking support. 6) Care after death.	Potentially relevant information may have been missed as EMS guidelines not palliative/EoL specific were excluded.
Juhrmann, et al. 2021 Australia - HIC	*"To review and synthesise the empirical evidence regarding paramedics delivering palliative and end-of-life care in community based settings."*	Systematic Literature Review	23 Articles	Key themes: 1) Broadening the traditional role. 2) Understanding patient wishes. 3) Supporting families. Paramedics can play an important role in facilitating home-based death and reducing unnecessary hospital admissions.	Selected articles limited to English. Some relevant articles potentially omitted.
Kamphausen, et al. 2019 Germany - HIC	*"To investigate challenges faced by emergency physicians (EPs) who provide prehospital emergency care to patients with advanced incurable diseases and family caregivers in their familiar home environment".*	Qualitative Individual Interviews	24 Emergency Physicians	Key themes: 1) Structural conditions of prehospital emergency care. 2) Medical documentation and orders. 3) Finding optimal and patient-centred therapy. 4) Uncertainty about legal consequences. 5) Challenges at the individual (EP) level. 6) Challenges at the emergency team level. 7) Family caregiver's emotions, coping, and understanding of patient's illness. 8) Patient's wishes, coping, and understanding of patient's illness.	Possibility of self-selection and recall biases. Limited external validity.

				9) Social, cultural, and religious background of patients and families.	
Knighting, et al. 2017 UK - HIC	To answer the questions, *"do paramedics view end-of-life care as a key part of their role and are they confident in managing this aspect of their clinical practice? Further to this, what are the underlying concerns of paramedics when managing end-of-life care"?*	Descriptive Online Survey	182 Paramedics	Paramedics saw end-of-life care as essential to their function. Fear of litigation and conflict with patient family members were identified as challenges in palliative care provision. Education is needed for paramedic confidence.	Impossible to verify participants' experience and qualifications. Low response rate.
Lamba, et al. 2013 USA - HIC	*"To 1) review four case scenarios that relate to palliative care and may be commonly encountered in the out-of-hospital setting and 2) provide a road map by suggesting four things to do to start an EMS-palliative care initiative in order to optimize out-of-hospital care of the seriously ill and increase preparedness of EMS providers in these difficult situations".*	Collaborative Plan of Action (IPAL-EM project) with Case Discussions	Plan of action to integrate palliative and prehospital care. 4 Case Discussions.	Four steps to begin an EMS-palliative initiative: 1) Identify EMS 'champions'. 2) Review protocols and literature. 3) Needs assessment. 4) Create action plan. Ideally, palliative care begins out-of-hospital. This study represents a guideline for the integration of palliative and EMS care.	Requires implementation in various settings as well as study to determine effectiveness. Limited case review.
Leibold, et al. 2018 Germany - HIC	*"To determine whether or not a paramedic's decision-making in end-of-life situations is influenced by his/her religious beliefs, how they decide given the current judicial framework, and how they would decide were there legal certainty".*	Descriptive Online Survey	429 Paramedics	Religious beliefs play a role in influencing paramedic decision-making, however, experience, background, special training and legal framework conditions, appear to have greater influence.	Possibility of self-selection bias. Unvalidated survey. Limited religions and beliefs represented across sample.

Lord, et al. 2019 Australia - HIC	*"To describe the incidence and nature of cases attended by paramedics and the care provided where the reason for attendance was associated with a history of palliative care".*	Retrospective Cohort	4348 Patient Records	Identified cases were 0.5% of caseload during study period. Most common assessments by paramedics were 'respiratory' (20.1%), 'pain' (15.8%) and 'deceased' (7.9%). Majority of patients were transported (74.4%, n=3237) with hospital the most prevalent destination (99.5%, n=3221).	Emergencies and reasons for paramedic calls may have been unrelated to palliative condition.
Lord, et al. 2012 Australia - HIC	*"To identify paramedics' knowledge, beliefs, and attitudes related to the care of patients requiring palliative care in community health settings".*	Qualitative Focus Group Interviews	3 focus group interviews with a total of 26 paramedics	Key themes: conflict in care goals, legal problems, lack of information, system problems. Further research suggested for education, guidelines and defining roles of paramedics in palliative care patient management.	Low response rate possibly resulting in an unrepresentative sample. Possibility of self-selection and group biases.
McCormick, et al. 2019 New Zealand - HIC	*"To understand the role New Zealand paramedics have as providers of community and pre-hospital palliative and EOL care, as well as to ascertain whether paramedics are suitably equipped and educated to provide quality palliative care to an increasingly elderly population with non-curable life-threatening illnesses".*	Rapid Literature Review	4 Articles	No New Zealand articles or guidelines were found. New Zealand Ministry of Health documents provide minimal reference to pre-hospital emergency medical providers. Paramedics already provide palliative and end-of-life care. They are willing to continue this provision, with improved education and better integration with other care providers.	Small sample of articles. Two databases searched. Lack of quality appraisal.
McGinley, et al. 2017 USA - HIC	*"To describe how medical orders inform EMS providers' decision making during emergencies involving*	Mixed-Methods: Descriptive Cross-Sectional	239 Surveys and 48 Interviews of EMS Providers	Many EMS providers (62.7%) had treated a patient with both an intellectual disability and medical orders directing end-of-life care. Key themes: 1) Provider	Possibility of self-selection bias. Limited external validity. Unvalidated survey.

	people with intellectual disabilities who are near life's end by considering the multiple (individual, organizational, sociocultural) contexts within which these decisions occur".	Survey and Individual Interviews		familiarity. 2) Organizational processes. 3) Sociocultural context.	
Mott, et al. 2020 Australia - HIC	*"To explore the experiences and attitudes of ambulance officers in managing pediatric patients with palliative care needs".*	Descriptive Online Survey	22 Ambulance Officers	Many ambulance officers found these cases to be challenging and their confidence levels varied. They were most likely to use correspondence provided by the family as a guide for management. Half of participants felt paediatrics receiving palliative care should have a 'not for resuscitation' order. They suggested support for themselves could be improved through increased patient documentation.	Small sample size. Possibility of self-selection and recall biases.
Murphy-Jones, et al. 2016 UK - HIC	*"To explore how paramedics make decisions when asked to transport nursing home residents nearing the end of their lives".*	Qualitative Individual Interviews	6 Paramedics	Key themes: 1) The challenges in understanding patients' wishes. 2) Evaluating patients' best interests. 3) The influence of others on decision making.	Possibility of self-selection and recall biases. Limited external validity.
Patterson, et al. 2019 UK - HIC	To investigate *"the extent to which access to, and quality of, patient information affects the care paramedics provide to patients nearing end-of-life, and their views on access to a shared electronic record as a means of*	Qualitative Individual Interviews	10 Paramedics	Key themes: 1) Access to information on patients nearing end-of-life. 2) Views on the proposed Electronic Palliative Care Coordination System (EPaCCS). Lack of access to patient information is a barrier to paramedics delivering end-of-life care. Access to EPaCCS may	Possibility of self-selection and recall biases. Limited external validity.

	improving the information flow around end-of-life care".			assist, but practical and technical challenges must be overcome for implementation.	
Pease, et al. 2019 UK - HIC	To *"describe the delivery, outcomes and potential impact of the Serious Illness Conversation project delivered to Welsh Ambulance Service Trust (WAST) staff".*	Mixed-Methods: Open-Ended Question Surveys, Pre- vs. Post-Intervention Surveys, Patient Care Record Review	218 Paramedics and 150 Paramedic Students	Participants view themselves as playing several roles in end-of-life care: 'facilitators' to patient-centred and seamless care, providing support, link between services and practical help. Barriers to providing end of life care centred around communication challenges. The Serious Illness Conversation training resulted in increased participant confidence handing these situations.	Self-assessment of confidence. Review of patient care records not specific to training participants.
Pentaris, et al. 2019 UK - HIC	To explore *"current knowledge and evidence about paramedics' attitudes and perceptions about end-of-life care".*	Systematic Literature Review	11 Articles	Key themes: 1) Critical incidents and emotional resilience. 2) Decision making. 3) Communicating death. 4) Recognising dying patients. 5) Death education. A dearth of literature exists concerning paramedics and end-of-life practice.	Selected articles limited to English. Some relevant articles potentially omitted.
Peran, et al. 2021 Czech Republic - HIC	To answer the question, *"What is the role of ambulance EMS, EMS dispatch centres, paramedics and emergency medical physicians in the provision of palliative care to terminally ill patients"?*	Scoping Literature Review	31 Articles	Three EMS roles and one contextual factor were identified: 1) Providing complex care. 2) Adjusting patient's trajectory. 3) Being able to make decisions in a time and information limited environment. 4) Health care professionals are insufficiently supported in palliative care.	Selected articles limited to English and German. Some relevant articles potentially omitted.

Rogers, et al. 2015 Australia - HIC	*"To identify and measure paramedics' perspectives and educational needs regarding palliative care provision, as well as their understanding of the common causes of death".*	Mixed Methods Survey	29 Paramedics	Paramedics have a good understanding of palliative care. They particularly identified terminal cancer as requiring palliation. Paramedic education is needed in end-of-life communication practices, ethical issues and illnesses requiring palliation.	Low response rate. Possibility of self-selection and recall biases.
Rosa, et al. 2021 Canada - HIC	*"To understand the current state of community paramedicine and palliative care"* in Canada.	Rapid Literature Review	Unspecified Number of Articles	Expanded scope of community paramedic practice that provides palliative care has potential benefit in alleviating healthcare system strain while simultaneously improving patient outcomes. Pilot community paramedic palliative care programs in Canada have demonstrated the benefits of reduced emergency department visits and improved patient satisfaction with community paramedic use.	Small sample. Lack of quality appraisal.
Stone, et al. 2009 USA - HIC	*"To ascertain paramedics' attitudes and beliefs about end-of-life decision-making; To measure the frequency with which practicing paramedics encounter various end-of-life situations…and the importance they assign to them; To assess the extent to which paramedics report they were trained to address end-*	Descriptive Cross-Sectional Survey	235 Paramedics	Participants perceived end-of-life issues as important, however, they did not feel adequately trained for these situations. Most (95%) agreed that paramedics should honour advance directives. Over half (59%) felt that paramedics should honour verbal wishes to limit on-scene resuscitation. Most (95%) had previously questioned intervention appropriateness in	Small sample size. Possibility of self-selection and recall biases.

	of-life situations; To compare the importance paramedics place on end-of life issues".			terminal patients. Some (26%) reported using personal judgement to withhold or terminate resuscitation in a terminal patient.	
Surakka, et al. 2020 Finland - HIC	To answer the questions, *"What is the frequency, reasons and timing of paramedic visits via the end-of-life protocol and do these visits differ between the areas with and without around the clock (24/7) palliative care services"?*	Retrospective Cohort	252 Patients, 306 Paramedic Visits	Most frequent reasons for paramedic visits were symptom control (38%) and transportation (29%). Paramedics visited 43% and 70% of the patients in areas with and without 24/7 palliative home care services, respectively. Over half (58%) of all paramedic visits were done outside office hours. Integration of paramedics into end-of-life care at home is reasonable particularly in rural areas without around the clock palliative care services and outside of office hours.	Efficacy of paramedic management and patient/family perceptions not assessed.
Surakka, et al. 2022 Finland - HIC	*"To describe experiences and educational needs of the paramedics included in the end-of-life care protocol."*	Mixed Methods Survey	192 Paramedics	Over 80% of paramedics agreed the protocol helped with care for patients with palliative needs and improved EoL care quality. Patient visits were considered useful (76.5%) and EoL care meaningful (62.5%) by paramedics who expressed challenges in psychosocial aspects, communication, symptom management, and their role in EoL care. They identified symptom management	Some respondents (28%) were inexperienced with the protocol. Potential for self-section and recall biases. Limited external validity.

				and communication as areas for education.	
Swetenham, et al. 2013 Australia - HIC	*"To explore the introduction of a rapid response team as outlined in the South Australian Palliative Care Services Plan 2009–2016".*	Mixed Methods: Call Log Data, Patient Records, Surveys and Individual Interviews	40 Patients attended by extended care paramedics, 24 Carer Interviews, 2 Patient Interviews, 22 Extended Care Paramedic Surveys	During the study period there were 40 paramedic visits. Of these, 90% received an after-hours visit and remained at their site of care; 5% attended an emergency department and 5% were directly admitted to hospice. Paramedics found palliative care rewarding and contributory towards job satisfaction, however, also demanding. Paramedics appreciated the specialist palliative care service's telephonic support.	Methodology lacking adequate description. Qualitative data without thematic analysis.
Taghavi, et al. 2011 Germany - HIC	*"To determine paramedics' practices in regard to withholding and terminating resuscitation, as well as to examine reports of their practical experiences with advance directives and special palliative crisis cards".*	Prospective Self-Administered Survey	728 Paramedics	End-of-life decision-making is challenging for paramedics. Guidelines for these situations are desired. Advance directives should be legally reinforced. Education in palliative care a need for paramedics.	No comparison of respondents vs. non-respondents – possibility of self-selection bias exists. Questionnaire was self-administered and unvalidated.
Waldrop, et al. 2014 USA - HIC	*"To identify how a sample of prehospital providers learned about EOL care, their perceived confidence with and perspectives on improved preparation for such calls".*	Mixed Methods Cross-Sectional Survey	178 Prehospital Providers	Key themes: 1) Prehospital provider education. 2) Public education. 3) Educating health care providers on scope of practice. 4) Conflict resolution skills. 5) handling emotional families. 6) Clarification of transfer protocols. Majority of paramedics received formal training on DNR orders (92%) and MOLST (72%). Majority of	Small sample size. Limited external validity.

				paramedics confident in ability to uphold DNR orders (87%) and resolve family conflict (87%).	
Waldrop, et al. 2015 USA - HIC	*"To explore prehospital providers' perceptions of (1) the frequencies of different types of end-of life calls, (2) the signs and symptoms of dying in prehospital care, and (3) medical orders for life sustaining treatment (MOLST)".*	Descriptive Cross-Sectional Pilot Survey	178 Prehospital Providers	Calls to nursing homes and dying patients were frequent. MOLST documentation was infrequently encountered. There is synergy between prehospital and palliative medicine, however, further research is needed to develop prehospital end-of-life decision-making and understand how prehospital providers operate when confronted with palliative situations.	Open to participant information recall bias and perceptions. Convenience sampling at a single institution limiting external validity. Unvalidated survey.
Waldrop, et al. 2019 USA - HIC	"*To explore prehospital providers' perspectives on how the awareness of dying and documentation of preferences influence decision-making on emergency calls near the end of life".*	Qualitative Individual Interviews	43 EMS Providers	Key themes: 1) Aware of Dying-Wishes are Documented. 2) Aware of Dying—Wishes are Undocumented. 3) Unaware of Dying-Wishes are Documented. 4) Unaware of Dying Wishes are Undocumented. 5) Discordance. EMS providers are well aware of the impact of their decisions at the end of life. EMS providers play a critical role at the end of life.	Possibility of self-selection and recall biases. Limited external validity.
Waldrop, et al. 2018 USA - HIC	*"To investigate prehospital providers' perceptions of emergency calls at life's end."*	Qualitative Individual Interviews	43 EMS Providers	Key themes: 1) Care crises. 2) Dying-related turmoil. 3) Staffing ratios. 4) Organizational protocols. EMS providers become mediators between nursing homes and emergency	Possibility of self-selection and recall biases. Limited external validity.

				departments by handling tension, conflict and challenges in patient management.	
Waldrop, et al. 2015 USA - HIC	*"To explore and describe how prehospital providers assess and manage end-of-life emergency calls".*	Qualitative Individual Interviews	43 EMS Providers	Key themes: multifocal assessment involving family, patient and surroundings, emotional family responses, conflict between family, patient and practitioner and management of the dying process. Results suggest need for increased ability of prehospital providers to uphold advance directives and patient wishes at end of life.	Possibility of self-selection and recall biases. Limited external validity.
Wenger, et al. 2022 USA - HIC	*"To survey the state of Michigan's EMS providers regarding encounters with hospice patients to better understand challenges caring for this population and to identify any need for additional education."*	Self-Administered Survey	706 EMS Providers	Most EMS providers (96%) had at least one encounter with a hospice patient. Only 24% had received formal education in this area. Most (86%) indicated interest in this training. Identified challenges included inaccessible advance directives (72%), pressure from family for aggressive treatment (61%), and difficulty contacting hospice personnel (48%). Empowering EMS providers with training in these areas would bridge the gaps.	Possibility of self-selection and recall biases. Questionnaire was self-administered and unvalidated. Limited external validity.
Wiese, et al. 2013 Germany - HIC	*"To determine international recommendations for the treatment and prevention of palliative emergencies".*	Mixed Methods: Prospective Self-Administered Survey	92 Experts	Four standards in the management of palliative emergencies were recommended: 1) Early integration of "Palliative Care Teams" and basic outpatient	Possibility of self-selection bias. Limited external validity. Unvalidated survey.

				palliative care systems. 2) End-of-life discussions. 3) Defined emergency medical documents, drug boxes, and "Do not attempt resuscitation" orders. 4) Emergency medical training for physicians and paramedics.	
Wiese, et al. 2012 Germany - HIC	*"To determine paramedics' understanding of their role in withholding or withdrawing resuscitation/EoL-treatment of palliative care patients when an advance directive is present".*	Prospective Self-Administered Survey	728 Paramedics	Majority of paramedics (71%) have dealt with palliative emergencies. Improved training and guidelines for paramedics are necessary. Ethical and legal obligations may conflict for paramedics faced with palliative emergencies.	Possibility of self-selection and recall biases. Questionnaire was self-administered and unvalidated.
Wiese, et al. 2010 Germany - HIC	*"To provide information about the strategic and therapeutic approach employed by EMTs in outpatient palliative care patients in cardiac arrest".*	Retrospective Cohort	88 Patient Records	Approaches to prehospital palliative patients with cardiac arrest differ based upon EMS provider qualification. Many resuscitations are initiated contrary to patient wishes due to lack of advance directives. These should be more readily available.	Small sample size. Limited external validity.
Wiese, et al. 2009 Germany - HIC	*"To show the importance of palliative medical care competence in the pre-hospital emergency medical care of patients with advanced cancer diseases* [and] *to describe basic approaches to improve the current situation in Germany".*	Prospective Cohort	361 Emergency Calls	Prehospital palliative care improves when prehospital physicians have palliative care expertise. Prehospital palliative care education is recommended.	Limited external validity.
Wiese, et al. 2009 Germany - HIC	To interview prehospital emergency physicians (EP) *"about their knowledge of*	Retrospective Self-	104 Emergency Physicians	Most participants (89%) had been confronted with palliative emergencies and expressed	Possibility of self-selection and recall biases. Questionnaire was self-

	palliative care, about their experiences in dealing with palliative care patients in out-of-hospital emergency situations and about their beliefs and interests in palliative care".	Administered Survey		uncertainties in managing these situations. Psychosocial and social care represented frequent challenges. Most participants (80%) were interested in further palliative care training.	administered and unvalidated.
Wiese, et al. 2009 Germany - HIC	To investigate and compare *"the emergency medical treatment of acute dyspnoea in palliative care patients affected by advanced (palliative) stages of cancer disease on basis of emergency medical therapy schemes".*	Retrospective Cohort	116 Patient Care Records	Significant relief of acute dyspnoea when using opioids compared to standard treatment. This should be included in emergency physician training. Most emergency physicians (>70%) were uncertain about palliative patient management.	Small sample size. Limited external validity.