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REVIEW

The Perspectives of Health Care Professionals on Providing End of Life Care and Palliative Care for Patients With Chronic Heart Failure: An Integrative Review

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Background Chronic heart failure is a complex and multifaceted syndrome characterised by an unpredictable trajectory, high symptom burden and reduced quality of life. Although palliative care is recommended, patient, provider and system factors limit access.

Aim To examine the knowledge, attitudes and perspectives of health care professionals towards end of life care and palliative care for patients with chronic heart failure.

Design This is an integrative review.

Data sources CINAHL, Academic Search Complete and SCOPUS were searched. Specific inclusion criteria and search terms were used. The integrative review method entailed analysing data from primary articles using the constant comparison method and then synthesising data.

Results Twenty-six (26) articles were selected that explored health care professionals' perspectives towards end of life care and palliative care. The categories that emerged were grouped into patient, provider and system issues. Most health care professionals involved in providing care to heart failure patients have misperceptions of palliative care, often confusing it with end of life and hospice care. This hinders patients' access to palliative care as determining the end of life period in heart failure is difficult.

Conclusions Exploring health care professionals' perspectives towards the delivery of end of life care and palliative care is important for understanding how their practice influences the delivery of palliative care for heart failure patients. Emphasis on increasing awareness of the principles of palliative care in the health care community, as well as addressing organisational issues will improve the care delivered to these patients.

Keywords Heart failure • Palliative care • End of life care • Health care professionals

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Introduction

Palliative care (PC) focusses on improving the individual's quality of life (QOL) and their function [1] for those facing a life-limiting illness by relieving distress and treating physical, spiritual and psychosocial concerns [2]. It encompasses bereavement and grief support before and after death. Palliative care can be viewed differently across health settings, however, there's a shift towards general PC provided by health care professionals (HCP), including those in primary care as well as care homes, with assistance from specialist PC [3]. Recent definitions of PC have moved away from care solely for patients who are imminently dying, however this view may still be held [1].

Chronic heart failure (CHF) affects millions worldwide [4] and this continues to rise with the ageing population [5] and improvements in therapy [6]. As CHF is a progressive syndrome, individuals experience physical and psychological issues resulting in complex needs right till the end of life (EOL) [7]. Individuals with advanced CHF have various and severe symptoms impacting their QOL [8] and comorbidities and an unpredictable trajectory result in CHF patients having palliative needs that differ. These issues should be addressed and PC has been advocated for CHF patients [9,10]. The responsibility of PC is on the rise for CHF patients and it is time to consider what HCPs providing care to CHF patients understand about EOL care and PC, and consider if these forms of care are viewed similarly.

Systematic reviews have examined HCPs' attitudes towards EOL care conversations [11] and HCPs' attitudes towards PC in CHF patients [12]. This integrative review will determine attitudes towards delivering and providing EOL care and PC in CHF patients, as the two terms may be used interchangeably, despite their differences. It is important to determine how PC and EOL care are understood and if they are, in fact, viewed as the same concept. Heart failure is a chronic illness and so patient management requires the involvement of multiple specialties, hence this integrative review will cover a range of HCPs involved in the care of CHF patients. Exploring HCPs' perspectives and attitudes towards the provision of palliative and EOL care for CHF patients is essential in improving care and to facilitate the provision of adequate services.

Methods

Design and Data Sources

A systematic search was conducted in June 2017 and a search of CINAHL, Academic Search Complete and SCOPUS databases was undertaken from January 1980 to June 2017 as research in CHF increased in 1980s as the prevalence of CHF rose.

Eligibility Criteria

Specific inclusion criteria were used to ensure all literature relevant to the problem was included. The studies that were included were those that were: 1) qualitative and quantitative studies that examined perspectives of HCPs on the delivery or provision of EOL care or PC for patients diagnosed with CHF; 2) written in English; and 3) peer-reviewed published manuscripts. Studies that were excluded were those that provided HCPs' perspectives on discussing or communicating EOL care or PC, rather than the provision of it, studies that provided caregiver and/or patient perspectives, studies reporting on actual prevalence of care provision rather than attitudes, perspectives or knowledge of HCPs and unpublished manuscripts.

Search Strategy

The search terms for each database included: heart failure or cardiac patients AND knowledge or attitude or belief AND end of life or palliative care. There was an additional hand search of studies and grey literature which include any documents produced by government, academics, and business and also include any doctoral theses. One (1) author (GKS) carried out the search and two authors (GKS & PJN) screened the titles and abstracts of the articles and discussed articles potentially eligible for inclusion. The articles were then screened by full text. Articles were excluded if they did not meet the inclusion criteria. The article search and selection process is illustrated below (Figure 1).

Data Extraction, Data Analysis and Synthesis of Findings

To examine HCPs' perspectives, knowledge, attitudes and beliefs towards the provision of EOL care and PC, the integrative methodology, as described by Whittemore and Knafl was followed [13]. This method allows for the synthesis of studies of various methodologies. The process of data analysis involved designing a matrix where data was collected from each article and included the author, aim, method, cohort detail and the main findings [13]. Data analysis included ordering and coding data from primary articles, followed by placing them into categories and then synthesising the data [14]. Synthesising studies were carried out using critical judgments, including conflicting ideas and describing important studies in detail. The constant comparison method was used to analyse data by converting the extracted data into systematic categories, aiding in the identification of themes, patterns and relationships [15]. This was checked and discussed with authors. Extracted data were compared and similar data were categorised and grouped together to enable comparisons between studies using different methodologies.

Results

The search resulted in 490 publications in which 103 duplicates were identified and removed. Thirty-one (31) publications were selected for full-text review after reviewing the title and abstract. Following this, a further five articles were excluded as they did not meet the inclusion criteria, leaving 26 studies included in this review (Figure 1).

Study Demographics

Of the 26 studies, there was a total of 3,120 health care professionals whose perspectives were recorded across the

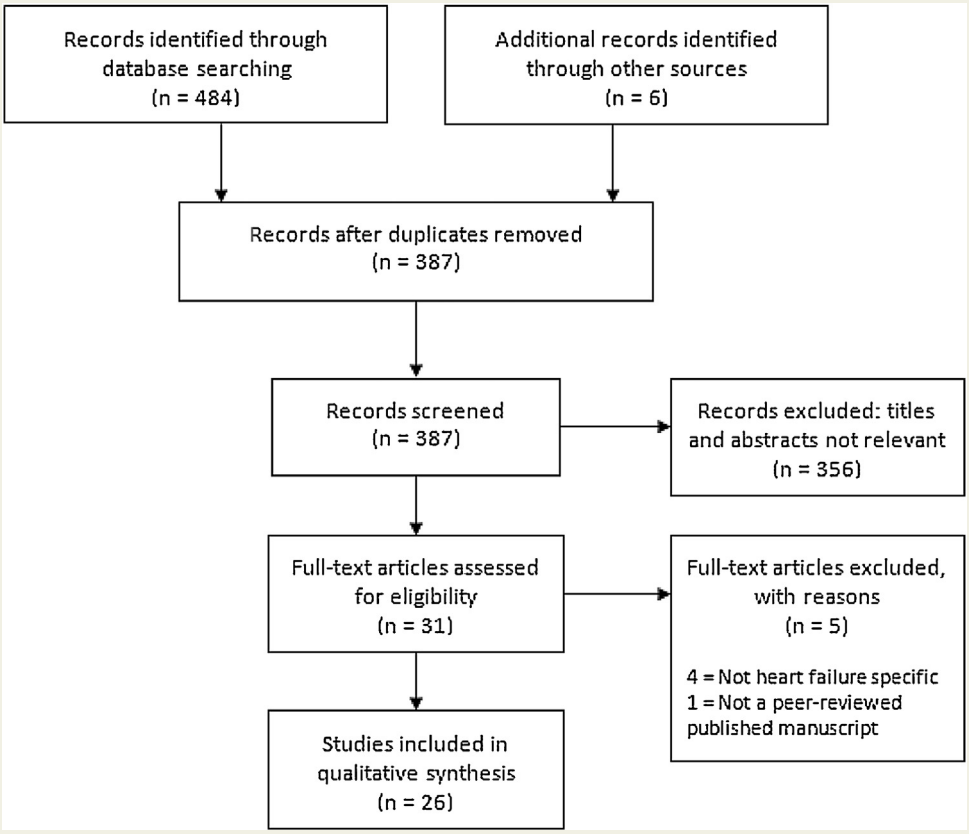

Figure 1 Diagram flow chart for the search strategy.

included studies with an average sample size of 120. There were 1,253 males, 806 females and 11 studies did not report on gender. The total sample included a mix of occupation of HCPs including nurses, hospice/palliative medicine clinicians, general practitioners (GP), cardiologists and geriatricians. The years of clinical experience ranged from 1 to more than 30 years and approximately a third of the included studies were conducted in the United States and only two were conducted in Australia, Scotland and Germany (Table 1).

Conceptual Categories

Several categories emerged from the studies to reflect HCPs' knowledge, attitudes, perspectives and beliefs towards delivering EOL care and PC for CHF patients and were separated based on patient, provider and system issues (Figure 2). A summary of the key points in each area is presented in Table 2.

Patient

Prognosis and Trajectory Influencing Referral

Recognising EOL and providing care at this time for CHF patients was difficult for HCPs due to the syndrome's unpredictable trajectory [16]. Health care professionals had trouble accepting dying [17] and the lack of consideration for EOL issues was due to the recognition of the patients' ability to live with CHF for some time [18]. Clinicians were cautious of timing EOL care to avoid shocking the individual or leaving it too late.[19]

The literature provides insight into where EOL care should begin, suggesting it should be when renal function worsens [19] despite fluids [16], increasing amounts of help needed for daily routines, individual's perception of poor QOL, refractory breathlessness and severe symptoms [20].

Most physicians had trouble predicting the illness trajectory and could only 'sometimes' predict death [21]. Most used clinical experience to estimate prognosis, while a quarter used model-based estimates [22]. Chronic heart failure nurses believed identifying physiological changes facilitated EOL care provision [16]. Using indicators aided in trajectory issues including when patients required symptom management at the EOL [16] and in determining when to reduce aggressive treatment interventions [19].

Prognosis was seen as one of the biggest issues for HCPs in their ability to deliver care and in determining the timing of PC referral for CHF patients. The uncertainty of survival led to trouble with initiating PC [9,20,23–26], and PC was viewed as prognosis based [9,25,27] with HCPs trying to match CHF patients to hospice admission criteria [26]. Periods of stability and decline for CHF patients during the last year of life added to the confusion regarding timing PC referral [28].

Table 1 Summary of the articles included in this review.

Author	Year	Country	Aim of study/design/method	Cohort – detail included if stated	Main findings
Borbasi et al. [32]	2005	Australia	To provide a description of nurses' experiences of caring for dying heart failure patients in the home and hospital. In-depth, open ended interviews were conducted where participants recruited via purposive sampling	There were 17 participants; 12 RNs across three sites and 5 community nurses. Age ranged from 25-55 and 12 were female. There were 9 RNs, 7 clinical nurse consultants or clinical nurses and 1 nurse manager	Identified what nurses believed facilitated a good death for dying CHF patients
Wotton et al. [20]	2005	Australia	To describe RNs perceptions of factors influencing PC care for CHF patients using a semi structured interview.	There were 17 participants whose age ranged from 25-55 years and were RNs, clinical nurse consultants and clinical nurses or nurse managers	Identified issues affecting a nurse's ability to deliver PC to CHF patients included recognising end stage CHF, knowing the patient, patient and family knowledge of trajectory, health system inadequacies, knowledge of PC and other difficulties
De Vleminck et al. [39]	2014	Belgium	To explore perspectives of general practitioners towards initiating ACP regarding heart failure, cancer and dementia, using focus groups that were analysed using constant comparison analysis	Total of 36 general practitioners of which 27 (75%) were male. Most were aged 40-49 and 75% worked semi-rural. There were 22 general practitioners who had between 1-6 terminal patients in their practice in the last year, yet only 2 of the participants were active in palliative home care. 83% of the doctors had 20 or more years in clinical work experience	Identified that general practitioners were unfamiliar with the terminal phase of CHF but recognised importance of timely ACP. Identified issues with timing of ACP
Hanratty et al. [23]	2002	England	To identify doctors perceptions of the need for PC for CHF patients and barriers to change using focus groups	34 health care professionals that are general practitioners and consultants in geriatrics, PC, cardiology and general medicine, of these 23 were male	Identified issues regarding organisational barriers, prognosis and discussed roles in PC delivery for CHF patients
Hanratty et al. [31]	2006	England	To determine doctors' perceptions of PC for CHF and what form that does and should take and to explore their understanding of PC through focus groups	36 participants that were general practitioners, academic general practitioners, district general cardiologists, tertiary centre cardiologists, geriatricians, PC physicians and general physicians. 66% were male	Themes that were identified were that PC was much more than a service, importance of managing dying, PC being not very medical, quantity vs quality and the PC specialists' view
Glogowska et al. [19]	2016	England	To explore the perceptions and experiences of HCPs working with CHF patients towards EOL care using a qualitative in-depth interview study	There were 24 health care professionals whose occupations were general practitioner, cardiologists, geriatricians, specialist CHF nurse, hospital liaison psychiatrist, community patron, cardiology rehabilitation manager and cardiac rehabilitation practitioner	Identified three issues surrounding providing EOL care to CHF patients, these include: raising the issue of death and dying, recognising EOL and avoiding the 'default' setting of hospitals at the EOL

Table 1. (continued).

Author	Year	Country	Aim of study/design/method	Cohort – detail included if stated	Main findings
Ziehm et al. [26]	2016	Germany	To assess health care professionals' attitudes towards PC for CHF patients to identify barriers and facilitators and develop recommendations. The study involved problem-centred interviews	There were 23 health care professionals that were hospital nurses, outpatient nurses, CHF nurses, PC nurse, cardiologists and general practitioners. The average age was 49 ± 8.79 years and 39% were male. The interviewees had worked with CHF patients for 20 years ± 9.73 years and one general practitioner was PC trained.	The main themes identified were the potential usefulness of PC in CHF patients, the possible barriers to PC, timing of PC initiation and recommendations for future formation of PC in CHF patients
Ziehm et al. [10]	2016	Germany	To identify German health care providers' perception of barriers and facilitators to PC for CHF patients by using an online survey	There were 175 participants, of which 52% were male and 54.3 were physicians. The sample comprised general practitioners, cardiologists, hospital nurses and community nurses. The years of clinical experience was 20 ± 10.7 years	Identified health care professionals' attitude and understanding of PC, the organisational issues of PC, roles and occupation, barriers to PC and the timing of initiation
Boyd et al. [30]	2009	Scotland	To evaluate components of services for CHF patients and determine how PC and EOL care might be delivered. Using serial qualitative interviews followed by focus groups	There were 62 health care professionals	Identified that prognostic uncertainty affected ACP and highlighted trouble transitioning care
Browne et al. [27]	2014	Scotland	To understand challenges and determine what needs to be done to improve PC service provision through focus groups and interviews	There were 65 participants that worked in general practice, were accident and emergency consultant, cardiologist, PC consultant, geriatrician, ambulance service, CHF liaison nurse, PC nurse with a CHF interest, district nurses, pharmacist and Marie Curie nurse	Identified misconceptions of ICD deactivations, generalists' lack of confidence at the EOL, organisational issues, hospice access and ACP importance
Kim & Hwang[35]	2014	South Korea	To describe nurses' knowledge of PC, attitudes towards care of dying, coping with death and PC practice for those with CHF and determine factors influencing PC preparedness to practice. This was done using a structured questionnaire	90 nurses responded and the mean age was 33 years old. Only 3 of these nurses were male and 54.4% worked in cardiovascular inpatient unit, 43.3% in the cardiovascular intensive care unit and the remaining in outpatient clinic. 93.3% of participants were a staff nurse. The total clinical experience was a mean of 131.12 (±183.12) months and 91.1% had never been educated in PC	Described the PC knowledge of nurses working with CHF patients and in regards to symptom management. Explored factors related to preparedness to practice PC

Table 1. (continued).

Author	Year	Country	Aim of study/design/method	Cohort – detail included if stated	Main findings
Brannstrom et al. [24]	2011	Sweden	To describe physicians' experiences of PC for CHF patients. Interviews were conducted and analysed using thematic content analysis	15 participants; 3 cardiologists and 12 internists. There were 11 men and participants were aged between 37-65 years. The participants had worked between 7-39 years in the clinic	Physicians identified their experiences of PC for CHF patients and identified three themes; facing individuals with CHF and its unpredictable trajectory, trouble regarding the continuation or withdrawal of medical treatment and improving follow-ups and cooperation
Ismail et al. [17]	2005	UK	To determine the confidence of trainees in handling EOL issues and the role of palliative medicine using an electronic survey	There were 221 Registrar-grade cardiologists that were members of the British Junior Cardiac Association in the UK	Identified trainees' clinical training, education and difficulties with pharmacotherapy at the EOL
Selman et al. [25]	2007	UK	To describe recent delivery of specialist PC for CHF patients, examine referral criteria, challenges and suggestions informing service delivery using a semi-structured qualitative telephone survey	20 participants based at 17 services representing community-based services, hospice services and hospital services. Health care professionals include PC physicians, medical directors, chief executive, outpatient services coordinator, palliative medicine consultants, cardiology consultant, PC nurse specialist and CHF nurse specialists	Identified challenges relating to specialist PC delivery including cardiology related, PC, patient and disease related. Described organisational issues, recommendations and identified referral criteria to PC.
Selman et al. [18]	2007	UK	To produce guidance and suggestions for improving EOL care in CHF using qualitative methods which involved semi-structured interview data	There were 12 clinicians from PC and cardiology. PC professionals were specialist registrar, a consultant, specialist inpatient nurses and specialist community nurses. In cardiology there were specialist nurses, consultants and a specialist registrar	Described barriers to improving EOL care including disease specific and training and education needs
Sargeant et al. [16]	2008	UK	To describe the perspectives and experiences of CHF nurse specialists regarding caring for CHF patients at the EOL through focus groups and interviews	There were 15 CHF nurses working in rural county in England, a rural and urban region of Scotland and a large city in England	Identified trouble with unpredictable trajectory and anticipating dying, challenges with managing symptoms and recognising EOL, working with and referring to specialist PC, barriers to providing EOL care and a lack of overnight services and carer support
Johnson et al. [29]	2012	UK	To determine CHF nurse specialist attitudes towards general PC provision for CHF and access to specialist PC using a survey	326 participants who are CHF nurse specialists employed mostly in community, few in acute hospitals	Identified the provision of general PC, CHF nurse specialists' involvement with specialist PC, referral criteria, factors that improve access to specialist PC and explored CHF nurse specialists' education and training needs

Table 1. (continued).

Author	Year	Country	Aim of study/design/method	Cohort – detail included if stated	Main findings
Hauptman et al. [21]	2008	USA	To determine the extent to which physicians believe they can predict prognosis in a 6-month timeframe and to examine physician practices and beliefs related to advanced CHF using a survey	There were 734 participants, of whom 292 were cardiologists, 291 were internists or family practitioners and 151 were geriatricians. The participants were mostly male (74%). The majority were office-based and all participants except for internal medicine/family practitioners were in urban practice settings. The common setting was a private group practice with no university association and cardiologists had higher numbers of CHF patients, with more than half having access to specialist PC	Identified physicians' confidence in predicting death in the last 6 months, decision-making for advanced CHF patients and use and understanding of guidelines
Hupcey et al. [28]	2009	USA	To explore the meaning of PC from health care providers using focus groups	There were 9 health care providers interviewed, 3 were CHF physicians and 6 were advanced practice/research nurses	Nurses and CHF physicians' understanding and conceptualisation of PC was identified
Autor et al. [34]	2013	USA	To evaluate oncology, intensive care and CHF nurses knowledge on PC in an institution where a PC program had been in existence for 8 years. Nurses completed the PC Quiz for Nurses online and then completed demographics questions	There were 251 participants, of which 96 were RNs in the CHF unit. The response rate of CHF nurses was 44.8%. Most CHF nurses had cared for 0 to 5 PC patients	Almost 75% of CHF nurses understood that patients don't need to show indications of a downward trajectory to be eligible for PC but only 16.3% of CHF nurses understood PC is compatible with life prolonging treatment
Swetz et al. [37]	2013	USA	To determine the practices and attitudes of clinicians working with CHF patients regarding withdrawing LVADs for patients at the EOL	There were 304 individuals that responded of which 89% had cared for individuals with LVADS and 65% were male and 72% were cardiologists, 12% were cardiothoracic surgeons and 4% worked in intensive care. Of the sample, 43% belonged to the ESC-HFA, 49% belonged to ISHLT and 22% belonged to HFSA	Described attitudes towards LVADs at the EOL and attitudes towards withdrawing it and death following it. Beliefs surrounding comfort of withdrawing LVAD and consultations were also explored
Kavalieratos et al. [9]	2014	USA	To determine factors perceived by health care providers influencing PC referral for CHF patients through semi structured interviews	In total there were 18 participants from cardiology, primary care and PC, of which 7 were male and 16 were Caucasian. The average years in practice was a median of 12 (2-38) and 12 practiced in an academic setting. There were 3 nurse practitioners, 3 physician assistants and 3 physicians. There were 17 participants had access to outpatient and inpatient PC services within their area.	Themes identified were a lack of functional knowledge regarding PC, the timing of referral to specialist PC, perceptions of PC in CHF, provider relationships and responsibilities, origin of referral and strategies to increase specialist PC referral

Table 1. (continued).

Author	Year	Country	Aim of study/design/method	Cohort – detail included if stated	Main findings
Dunlay et al. [22]	2015	USA	To determine clinicians' expectations, confidence and practice in providing EOL care to CHF patients using a multi-site electronic survey	Physicians, nurse practitioners and physician assistants specialising in CHF and working with CHF patients from tertiary care, community care and primary care. There were 50 physicians and 45 nurse practitioners or physician assistant. The majority (51%) had 6-20 years of clinical experience	Identified what was used to estimate prognosis in CHF, discuss role for providing EOL care, identify reasons for lack of referral to specialist PC and identify clinician confidence with providing EOL care
Swetz et al. [38]	2015	USA	To describe the practice and attitudes of American hospice/palliative medicine health care professionals in regards to withdrawing LVADs using a web-based survey via electronic mail	There were 122 members of the American Academy Hospice and Palliative Medicine that participated in this study, of which more than half were female (53%) and most were physicians (93%) and had practiced for more than or equal to 11 years (69%)	Identified attitudes and confidence towards LVAD deactivation
Chandar et al. [33]	2016	USA	To determine cardiologists and primary care physicians' attitudes towards ACP in CHF patient and identify barriers to timely ACP discussion. Used a cross-sectional online survey	There were 29 individuals from cardiology and 53 were primary care physicians, while the remaining (35) were oncologists	Determined beliefs and attitudes surrounding whose role it is to conduct ACP for CHF patients and identified issues hindering effective ACP
McIlvennan et al. [36]	2016	USA	To determine the views and beliefs of cardiologists and hospice/palliative medicine professionals towards deactivation of LVADs in CHF patients using survey design	In total, there were 391 clinicians that had provided care to individuals with LVADs that were included in the study. Of these, 269 were from cardiology and 79% were physicians and 58% were male. Most participants had more than or equal to 11 years of clinical experience	Identified health care professionals' perspectives on LVADs and deactivation as well as previous practice withdrawing LVADs and issues surrounding ethical and legal factors

Abbreviations: CHF, chronic heart failure; PC, palliative care; RN, registered nurse; EOL, end of life; ACP, advance care planning; LVAD, left ventricular assist devices; ICD, implantable cardioverter defibrillation

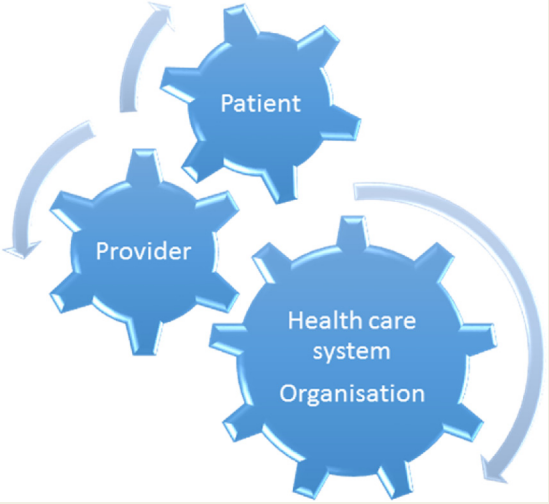

Figure 2 Data from studies can be categorised based on patient, provider and system issues.

Referral criteria in the literature were based on indicators such as physiological findings including symptom burden, disease status or treatment events including device implantation [9]. Multiple, frequent hospitalisations was a referral indicator to specialist PC [9,25] and signalled EOL care commencement [19,20]. Cardiology providers stated the point at which little more can be done [9], functional decline [10] or if a patient was dying [9,10] were indicators for specialist PC referral. The study by Selman and colleagues [25] discussed criteria for PC referral. These included New York Heart Association Class III or IV status, refractory severe symptoms, poor estimated survival, psychological difficulties [10] with EOL or disability and social isolation. The authors also recommended PC referral when carers or staff (including the cardiac team) were overwhelmed or required more support. The use of referral criteria and specialist PC clinicians building rapport with other teams led to more patients being referred [9,29].

Specialist PCs agreed they weren't explicit in timing their involvement with CHF patients, leading to primary care clinicians being uncertain about when to include a specialist PC [19,30], acknowledging that it should be sooner than what is currently practiced [10,26,28,31]. The lack of referral also resulted from clinicians being unaware of resources available from PC specialists and believing their patients wouldn't benefit from PC [22]. Later PC introduction occurred due to PC being linked with hospices [9] and patients being able to continue their daily routine [10].

Patient and Family Factors

Individuals with CHF are often provided with insufficient information about their illness severity and progression, possibly due to a prognosis not being given at diagnosis [10,16,20,26,27], leading to challenges in providing PC [10,27]. Patients who experienced previous successful interventions were hesitant to accept when nothing further could be done [19]. Stigma surrounding PC being associated with euthanasia or assisted dying [10,25,26] led to trouble with the patient's acceptance of PC.

Family members influence patients' access to PC as they can take on a defensive role, resulting in anger when they are facing a patient's death [24] and efforts to shield patients from the truth [19]. Providing PC to CHF patients was complex for nurses as it involved family relationships [20]. Health care professionals worried over whether families recognised when their loved one was approaching death [19] and physicians had trouble meeting family members' support needs [24]. Family dynamics were an important consideration for improving EOL care for CHF patients as families can facilitate a good quality death [32].

Issues With Withdrawing Treatment

Device Management

Implantable cardioverter defibrillator (ICD) deactivation is an important consideration for CHF patients at the EOL as this device can prevent sudden cardiac death and slows the illness course [24]. Discussing ICD deactivation is essential to facilitate good quality EOL care [24]. Misunderstandings regarding deactivation exist, including the patient's belief of immediate death [27]. This may stem from the fact that many cardiologists had never discussed ICD deactivation prior to implantation [17], despite cardiologists considering deactivation as appropriate for CHF patients at the EOL [21].

Provider

Attitudes, Knowledge and Understanding

End of Life Care

Some HCPs involved in the care of CHF patients weren't confident in providing EOL care and were interested in

Table 2 **Key points identified based on patient, provider and system issues.**

Patient	Provider	System
1. Prognosis and trajectory influencing referral 2. Patient and family factors 3. Issues with withdrawing implantable cardioverter defibrillators	1. Attitudes, knowledge and understanding of end of life care and palliative care 2. Perspectives on role and occupation 3. Continuing or withdrawing pharmacological treatment and left ventricular assist device at the end of life	1. Organisational issues 2. Advance care planning

further skill acquisition, including EOL care provision and hospice enrolment [22]. Cardiac staff believed they needed further training to address EOL needs, as cardiologists tended to focus on the curative and technical aspects of patient care [18]. Some physicians believed the treatment phase and palliative phase were mutually exclusive and shifting from one to the other was important in providing quality EOL care and a dignified death [24]. General practitioners and nurses believed hospices provide respite to their patients, leading to an improvement in QOL and symptom management [16,19].

Attitudes Towards Palliative Care

Many HCPs caring for CHF patients supported PC [9,10] and its focus on holistic care [31] and de-escalation of therapy [10]. The increasing need for PC was acknowledged [10] due to the growing prevalence of CHF and recognised that many patients, especially the elderly, wanted to avoid life-sustaining therapy that may reduce QOL [26]. Palliative care nurses believed PC entailed understanding chronic illness, teamwork and moving away from the perception of PC for cancer patients only [20].

Attitudes opposing PC in CHF exist, with some cardiologists believing PC is unnecessary due to the progress of medicine allowing the development of new and functional therapies [26] and only a few believed invasive medical CHF treatment reduced the QOL of their patients [10]. Primary care physicians believed CHF posed issues with integrating PC as symptom management was considered to be PC [9].

Attitudes Towards Specialist Palliative Care

The literature suggests positive attitudes towards specialist PC from HCPs providing care to CHF patients. Chronic heart failure nurses agreed that palliative specialists played a role in delivering care to advanced CHF patients [29]. Some had integrated services enabling joint visits for patients with a sudden deterioration and so palliative and CHF nurse specialists could share their expertise and learn from each other [16], as there was concern that specialist palliative clinicians had limited knowledge of CHF [25,29]. Some CHF nurses worried about the timing of specialist PC involvement [19]. Most CHF nurses contacted specialist PC for referral or educational activities [29]. These nurses believed care pathways between cardiology, primary care and specialist PC facilitated access to specialist care [29].

Palliative care physicians were useful for symptom management [9,29] and in aiding a good death [32]. Palliative care specialists were valued for their ability to coordinate care, discuss prognosis and advance care planning (ACP) [9,33] and a QOL focus [9]. Palliative specialists were helpful in identifying CHF patients reaching the EOL [27], and acting as a bridge to social care [29]. Health care professionals believed they benefited from specialist PC knowledge [10] and contributed to proactive palliation [20].

In contrast, GPs and geriatricians were usually reluctant to send their patients to another specialty [31]. The lack of understanding between PC and general practice was highlighted, suggesting GPs and geriatricians viewed the role of palliative specialists as being limited to care of the dying patient as other chronic, incurable illnesses, like diabetes, are managed by GPs rather than PC specialists [31].

Understanding and Knowledge of Palliative Care

Health care professionals define PC [9] which is viewed as a 'concept' [31]. Palliative care aims included maintaining QOL by supporting the patient and their symptoms [10]. Palliative care was depicted as a time where medical treatment goals shift and death is acknowledged. Recognising when this shift should occur was difficult to determine [31].

Despite the HCPs' ability to define PC, differences in definitions of PC exist in primary care and cardiology, with a lack of understanding that PC is not prognosis-dependent and can occur with medical therapy [9]. Nurses were not immune to this, equating PC with EOL care or the process when no other treatment could be offered [28]. Some nurses did categorise PC broadly as a support system for individuals with a life-limiting chronic illness, but in practice, it became a 'bridge to hospice' [28]. General physicians did state a definition of PC being introduced at diagnosis [31] and cardiologists differentiated PC from hospice, defining it as mostly symptom management and avoiding interventions that prolong life [28].

The general consensus from the literature suggested many HCPs caring for CHF patients had poor knowledge of PC content [10,17,26] and required further training [18,26,29]. Some nurses lacked knowledge of PC [34,35] and had difficulties answering questions correctly regarding PC symptom management [35]. In the study by Author and colleagues [34], only 16.3% of CHF nurses believed PC was compatible with life-prolonging treatment. Most (74.4%) understood that CHF patients don't have to show indications of a downward trajectory to be eligible [34]. Palliative care nurses believed CHF medications should be decreased and acute care nurses reinforced joint cardiac and palliative management [20]. Kavalieratos and colleagues [9] believed a major barrier to specialist PC was the low knowledge levels and physicians needed more education on the availability and worth of specialist palliative services.

Suggestions for further education in PC include shifting care models to reflect a collaborative care philosophy [20], multidisciplinary educational programs run by the PC unit and specialist PC providers raising awareness of their benefit to patients [9], staff and the general public [26].

Perspectives on Roles and Occupation

Most primary care clinicians believed it was their role to provide EOL care [22] and CHF nurse specialists had a role in EOL care and enabling home deaths [19]. The debate on whose job it was to initiate specialist PC exists [10,25] and differences in inter-disciplinary perspectives posed

difficulties in including specialist PC [25]. Some believed the responsibility belonged to the GP or those with a close relationship to the patient [10], but most believed a multidisciplinary team was required [10,20] and PC physicians should be involved early on [10].

Many studies [9,20,25,26,31] indicated that cardiologists' philosophy of care influenced their delivery of PC, as they perceived death as a failure [31], were reluctant to hand over patients to specialist PC [25], and were not accepting of limits to medical care [20,26]. The cardiac team was viewed as the principal team for PC, with specialist PC support when required [20,25]. Nurses and PC physicians viewed cardiologists as being driven by interventions [9,25] and being committed to life-prolonging therapy [20]. However, cardiologists valued teamwork, common goals and a desire to involve any specialty with required skills [23]. The lack of links and discussion between cardiology and other specialties was acknowledged [23].

The role of nurses in delivering PC was highlighted in the literature, with the belief that PC was 'largely nursing based care for people who are terminal' [31]. Chronic heart failure nurses were viewed as those who could deliver continuity of care to patients following hospital discharge as well as liaise between care teams, facilitate treatment adherence and pass on expertise to primary care [23]. Nurses felt confident delivering PC, but required more contact with the specialist PC team [20]. The community team's confusion of the CHF nurses' role delayed involvement with specialist PC [25].

Doctors were viewed as service coordinators [31]. Some generalists were not keen to be the forerunner of EOL care [27] and geriatricians recognised their role in treatment revision, upholding a palliative approach and managing death [31]. Specialist palliative clinicians believed their profession involved providing advice, education and expert resources for patient care in a holistic manner [31].

Continuing or Withdrawing Treatment at the End Of Life

Pharmacology

Health care professionals experience difficulty with determining changes in pharmacotherapy, since the patient still receives life-prolonging treatment that provides symptom relief during the palliative phase. Thus, the shift to PC may be unclear [24,31]. There is recognition that medication should be gradually decreased [31], however most HCPs, including PC staff, experienced challenges in alleviating CHF symptoms [18]. Nurses were inexperienced using morphine for CHF patients and feared opioid overdose [20] and many non-cardiologists had limited experience in the use of intravenous inotropes [21]. Chronic heart failure nurses recognised the importance of balancing symptom management and maintaining heart function without pushing patients into renal failure [16]. HCPs believed they would benefit from further EOL care training, especially in symptom management and opioid titration [17,18].

Left Ventricular Assist Devices

Left ventricular assist device (LVAD) withdrawal should be considered for CHF patients at the EOL as it is regarded as 'life-prolonging treatment' [36,37]. Depending on the severity of underlying CHF, death may occur within minutes of LVAD withdrawal, nonetheless the majority of clinicians believed death following LVAD withdrawal was due to the syndrome of CHF rather than an act of assisted suicide [36,37]. Just over a quarter of HCPs felt comfortable personally switching off the LVAD [36,37] although this number was higher in hospice/palliative clinicians [36]. Most HCPs agreed a consultation with ethics or psychiatry should sometimes be undertaken before agreeing to the patient's request to withdraw LVAD support [37]. More than half of cardiologists agreed patients should be actively dying before their LVAD is withdrawn [37], however this belief was not held by hospice/palliative specialists [36,38].

System

Organisational Issues

Health care professionals were aware that CHF patients at the EOL were visiting the hospital repeatedly, with different consultation teams not equipped to provide PC [12,16,19,23,27]. These occurred out of hours when patient and families became distressed due to a lack of support [16,19,23,31], poor planning [19], and follow-up [24]. Poor coordination resulted in multiple HCPs arriving simultaneously, leading to patient exhaustion and wasted resources [16]. HCPs from different, and within, disciplines should collaborate through education [10,26], however, too many HCPs from different disciplines can make it difficult to effectively plan PC [20]. There was concern over whether patients would receive adequate treatment if specialist PC took over, highlighting the interdisciplinary limitations [10] and lack of care coordination [24]. A key role was described as facilitating in planning for the dying CHF patient and coordinating between specialties [23,25]. Primary and secondary care physicians are not completely aware of services available and beneficial to CHF patients [10]. General practitioners wished primary and secondary care physicians were more involved with PC [19] and suggested care pathways aiding in collaborative care were needed [25].

Other organisational issues occurred with planning EOL care for CHF patients, including CHF nurses lacking information on referral forms and needing to telephone multiple services to gather updated prescriptions [16]. A lack of funding and services [20,25] added to trouble addressing CHF patient's needs. Nurses required more quantity and quality of resources while the staffing and structural issues, including difficulties accessing support services [27], influenced transitions to PC [20].

There was a concern that there was limited access to specialist PC within hospitals and for non-cancer patients [10,24,25]. In order to address limited access, HCPs

suggested that patients could stay in the same ward while having their palliative needs addressed by a consultative PC service [26]. There was difficulty accessing patients in hospital [25] and there was an agreement by GPs that the acute hospital ward wasn't the most ideal place to die [19]. Rather, a peaceful family-friendly environment with appropriately trained and resourced staff would allow for quality EOL care [32].

Advance Care Planning

Advance care planning was viewed as essential for CHF patients at the EOL as it reduced the number of preventable hospitalisations [19,27] and aided in directing CHF patients to appropriate services including hospice [27]. ACP aided with decisions regarding not-for-resuscitation orders and in allowing the patient their right to die, should their heart stop [24]. The use of ACP enabled patients and carers to make plans for the future and allow for a good quality death [32] in the home [19].

General practitioners acknowledged ACP should be introduced in a timely manner for CHF patients, but the timing was difficult to recognise; agreeing it should be introduced earlier [39]. The issue of prognosis prevented effective ACP [30] and discussions about ACP tended to occur during periods of instability [39]. A lack of time, trouble acquiring legal documents and discussions occurring in hospital negatively impacted early initiation of ACP [33]. Many cardiologists reported never conducting an ACP, with cardiologists and primary care clinicians agreeing the role belonged to primary care, with the aid of registered nurses [33].

Discussion

This integrative review informs HCPs attitudes, understanding and perspectives on delivering EOL care and PC, highlighting issues enabling or hindering the delivery of this care to CHF patients. The main finding of this review is that PC may still be viewed as EOL care for CHF patients, despite recent definitions of PC shifting away from care for those imminently dying. An issue which hindered EOL care delivery was the HCP's difficulty with determining prognosis to determine when EOL care should occur [21]. Similarly, the timing and initiation of PC for CHF patients should occur when a patient has a poor prognosis and if they matched hospice criteria [25,26]. Indicators suggesting specialist PC referral was required, such as multiple hospitalisations, also signalled the commencement of EOL care [9,20]. Hence, PC may still be viewed as synonymous with EOL care by some HCPs providing care to CHF patients. Palliative care can have different meanings in different health settings. For example, in the US, community-based PC was only accessible through a hospice for those that met hospice criteria [40]. Recently, community-based PC has been developed for individuals not eligible for hospice [40]. The majority of PC services is provided in acute care hospitals through inpatient units [40]. Although HCPs favour PC for CHF patients [9,10] and mostly have positive attitudes towards specialist PC [9,29,31], an increase in functional knowledge regarding PC is necessary [9]. The European Society of Cardiology Guidelines published in 2005 [41], 2008 [42] and 2013 [43] suggested PC should be available for individuals with CHF with a poor prognosis or in their terminal phase. Studies [16,25,31] on perspectives towards PC following the release of these guidelines showed HCP had difficulties timing the switch to PC [31] and PC referral for CHF patients was prognosis-based [25]. The American Heart Association Guidelines in 2013 [43] also described PC as being indicated when EOL care and hospice are required. When a hospice attempted to expand from solely EOL care, it adopted the term 'palliative care' and the terms became connected [44]. The literature shows referral criteria to specialist PC for CHF patients are reflective of EOL [9,10]. The practice of using indicators of EOL to signal PC commencement is not desirable as the dying phase in the CHF trajectory is difficult to pinpoint [45,46]. Recent European guidelines have recommended early introduction of PC [47] and shifting away from the perspective of PC occurring during EOL is needed to improve patient QOL and enable PC provision for CHF patients [48]. The belief that PC is prognosis-dependent [9] and affiliated with EOL [16,22] is a major issue hindering timely introduction of PC for this population and this attitude would require addressing through increased knowledge and training of HCPs including primary care, to enable PC provision to all CHF patients, including those living in rural or remote areas.

System issues including organisation problems leads to CHF patients receiving disjointed care and preventing or delaying PC access. Differences in countries' health systems resulted in differing perspectives of HCPs towards role and occupation. Studies from the United Kingdom [25,31], Australia [20] and the United States [9] agreed that cardiologists' philosophy of care influences PC delivery. Although the cardiology team was viewed as the principal team for PC in the UK [25] and Australia [20], in the US, primary treating physicians were deemed responsible for delivering PC to CHF patients [40]. Further research is needed to determine the optimal composition of PC teams and to determine how to overcome the system-level barriers to the delivery of timely PC to CHF patients [27].

Due to problems surrounding prognosis, patients' with CHF are generally not well informed about their illness severity and prognosis [10,16,26]. Lack of patient awareness regarding prognosis was believed to hinder PC introduction [10,27]. Strong and honest patient-provider relationships and an increased understanding of the philosophies of PC will enable smoother care transitions.

Based on the current perspectives of HCPs, PC is introduced at EOL, to facilitate hospice referral [22,26] or if the patient is dying, or has a poor prognosis [9,10,25,27]. There is a debate over whose role PC belongs to. The literature suggested the role belongs within the cardiac team [20,25], CHF nurses [22,31] and the GP [10], however, a multidisciplinary team was most important, with the role belonging to

multiple HCPs [10,20]. Palliative care should be introduced earlier in CHF management to improve and focus on the patient's QOL, provide care to the whole patient, manage symptoms and coordinate services [9,16], however this is prevented by PC's association with prognosis and the EOL; a point difficult to determine due to periods of stability and decline in the CHF trajectory [9,28].

Similarly, the current consensus on HCP's perspectives of when EOL care should occur is when CHF patients have poor renal functioning [16,19], poor QOL, severe symptoms [20], a poor prognosis determined by clinical judgements or model estimates [22] and device deactivation [24]. The responsibility of EOL care belongs mainly to primary care [22] and CHF nurse specialists [22]. The provision of this care was also hindered by the difficulties of determining the EOL point in the unpredictable trajectory of CHF [9].

The strengths of this review are, that it demonstrates HCPs' perceptions towards palliative and EOL care, highlighting that the terms are often used interchangeably. This review facilitates in understanding the impact HCPs' practices can have on the delivery of PC for this population and in providing opportunities for improved patient care. A limitation of this review is, studies on attitudes towards discussing PC were excluded, as some argue that discussing goals of care are components of PC.

Conclusions

More research is needed on integrating PC into CHF management. Increasing the awareness in both patients and providers regarding the principles and timing of PC will result in higher PC referrals for CHF patients and improved patient QOL. This includes increasing knowledge levels on distinguishing the differences between PC and EOL care, with a focus on introducing PC early in the illness trajectory and an emphasis on PC's focus on QOL and not associating it with care for the dying. Developing prognostic indicators and risk prediction models of mortality or rehospitalisation to facilitate specialist PC referral can be somewhat futile as most CHF patients survive between 1–5 years with a constant risk of sudden cardiac death. Research focussing solely on prognostic indicators goes against the PC philosophy which focusses on QOL and addressing needs continuously.

Further research is also required in clarifying the roles of each HCP in the provision of PC, including nurses, cardiologists and primary care professionals. Defining the HCPs required to make up the principal treating team is needed to improve the care provided to CHF patients.

Addressing organisational issues by coordinating care and services will enable improved patient care for the CHF population. This will result in a reduction of stressful and expensive hospitalisations, especially after hours. Further research should also be conducted to address system-level issues such as staffing, structural and access issues in order to enable HCPs to incorporate the principles of PC into CHF management early in the illness trajectory.

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