

# Prehospital Providers' Perceptions of Emergency Calls Near Life's End

Deborah Waldrop, PhD, MSW<sup>1</sup>, Brian Clemency, DO, MBA<sup>2</sup>, Eugene Maguin, PhD<sup>1</sup>, and Heather Lindstrom, PhD<sup>2</sup>

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## Abstract

The nature of emergency end-of-life calls is changing as people live longer and die from chronic illnesses. This study explored prehospital providers' perceptions of (1) end-of-life 911 calls, (2) the signs and symptoms of dying, and (3) medical orders for life sustaining treatment (MOLST). The exploratory–descriptive pilot study was survey based and cross-sectional. Calls to nursing homes occur most often, (47.8% every shift). The MOLST was seen infrequently (57.9% rarely never). The most frequent signs and symptoms of dying were diagnosis (76%), hospice involvement (82%), apnea (75%), mottling (55%), and shortness of breath (48%). The MOLST identifies wishes about intubation (74%), resuscitation (74%), life-sustaining treatment (72%), and cardiopulmonary resuscitation (70%). Synergy exists between the fields of prehospital, hospice, and palliative medicine which offers potential for improved education and care.

## Keywords

patient/family care, end-of-life decision making, emergency care, end-of-life care

## Introduction

Decisions about life-sustaining treatment are frequently made by emergency medical services (EMS) professionals. However, decisions made by prehospital emergency providers (emergency medical technicians [EMTs] and EMT-paramedics) well before arrival at the hospital are pivotal in determining how and where people with advanced illnesses die and whether their end-of-life wishes are honored. Prehospital providers are on the front line of end-of-life decision making in complex, emotional, and often uncertain circumstances. Prehospital providers are trained to stabilize patients and transport them to a hospital<sup>1</sup> yet because they are focused on saving lives, they may initiate interventions in the first few minutes of a call without knowing whether their actions will relieve or increase suffering and whether the crisis call was unanticipated or the result of an impending death.<sup>2</sup> Some previous studies have identified common signs and symptoms of dying patients<sup>3-5</sup>; others have established probable symptoms<sup>6,7</sup> and still others have described how symptom trajectories vary by diagnosis, pathophysiology, and comorbid conditions.<sup>8-10</sup> Perceptions of the signs and symptoms of dying and how these intense and difficult situations are managed can influence end-of-life decision making and health care utilization.

State regulations have been established to guide emergency decision making in the field, but they can also underscore the conflict between the “duty to treat” and the patient’s right to choose no resuscitation at the time of death.<sup>11</sup> Prehospital do not resuscitate (DNR) protocols have been gaining acceptance

across the United States, but these protocols typically focus on irreversible signs of death. Patients who have valid DNR orders can undergo unwanted resuscitation if their documents are questioned, unknown, or unavailable to family members.<sup>12</sup> Verbal wishes expressed by family caregivers at the scene can be difficult to validate and often not recognized as legitimate evidence against resuscitation. As a result, invasive treatments and resuscitation can be initiated even when death is expected, appears imminent, or when people know that the person does not want life-sustaining measures.<sup>11,13</sup> In all, 16 states have either a mature or a fully endorsed program of physician or medical orders for life sustaining treatment (POLST) and 27 are in the process of developing one. Both POLST and Medical Orders for Life Sustaining Treatment (MOLST) forms have the potential to influence prehospital care (National POLST).<sup>14</sup>

People who are in the advanced stages of a chronic illness can be cared for in nursing facilities, assisted living facilities (ALFs), and private residences; they may or may not be enrolled in a hospice program. Despite instructions not to begin resuscitation or call an ambulance, family members as well as

<sup>1</sup> University at Buffalo School of Social Work, Buffalo, NY, USA

<sup>2</sup> Department of Emergency Medicine, University at Buffalo School of Medicine, Buffalo, NY, USA

## Corresponding Author:

Deborah Waldrop, PhD, MSW, University at Buffalo School of Social Work, 685 Baldy Hall, Buffalo, NY 14260, USA.

Email: [dwaldrop@buffalo.edu](mailto:dwaldrop@buffalo.edu)

facility staff frequently call 911 when death is imminent.<sup>1,15</sup> Emergency calls are also made in the final stages of life when families are afraid and cannot manage a loved one's suffering from uncontrolled pain or other symptoms.<sup>16,17</sup> The problem for study is that the nature of emergency calls near life's end is changing as people live longer and die from advanced chronic illnesses. Yet, little is known about how prehospital providers perceive these potentially difficult calls. The 3-fold purpose of this pilot study was 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) MOLST.

## Methods

### Study Design and Sample

The study was exploratory and involved a cross-sectional survey design. Prehospital providers who were employed by a single emergency medical services (EMS) agency that provides coverage to a small city and the surrounding county in New York State were invited to participate. Pencil-and-paper survey instruments were distributed to 208 prehospital providers. Participants had not received any preliminary educational intervention that was specific to the survey. Providers with certification levels other than EMT-Basic and EMT-Paramedic were excluded from the study. Participants were allowed to use work time to complete the survey. Participants were given a US\$10 gift card to a local coffee shop to thank them for their participation. This study was approved by the Social and Behavior Sciences Institutional Review Board and the EMS agency.

### Survey Instrument

The survey instrument was developed with the guidance of a consultant panel that comprised 4 prehospital emergency providers and 2 physician medical directors. No previously validated measure of end-of-life calls in prehospital care exists. The survey instrument was pilot tested for face validity, clarity, length, and flow before administration. The survey instrument included 35 closed- and 1 open-ended question followed by a text box for a written answer. The instrument was designed for completion within 10 minutes. Eight demographic questions asked about age, race, level of certification, and years of education and experience. Twenty-seven questions were asked about 3 domains of end-of-life care: (1) frequencies of various emergent end-of-life calls (eg, home, nursing home, ALFs), (2) signs and symptoms of dying, and (3) advanced directives (eg, DNR and MOLST).

The survey instrument included questions about the frequency of 11 different types of calls followed by the responses: every shift, one or more times a week, one or more times a month, once every 2 to 3 months, and rarely never. The survey instrument asked about whether 2 objective factors (diagnosis and hospice involvement) indicated that a person was dying.

Participants were given a list of 11 signs and symptoms assessed in the field and asked to identify which they associate with dying. State-specific POLST or MOLST forms have been designed to ensure that seriously ill patients can document treatment that they want or do not want and that their wishes are honored. The study was conducted in New York state where MOLST forms were authorized in 2008.<sup>17</sup> Participants were asked to identify the functions of the MOLST from a list of 7; how helpful they thought the MOLST was and for their opinions about it.

### Data Analysis

Survey data were entered into the IBM SPSS (IBM-SPSS-20). Sample demographics and frequency questions were calculated using descriptive statistics. A 1-sample chi-square test was conducted (confidence interval = .95) to test the null hypothesis that the frequencies in all categories occur with equal probabilities. Written answers to the open-ended question about the MOLST were transcribed and collected in a text document for content analysis.

Multiple response sets were created to analyze the questions for which participants were asked to choose all that apply (eg, which signs and symptoms are associated with dying; the functions of the MOLST) and total endorsements were calculated. Because of the potential overlap, cross tabulations were conducted to identify the number of participants who endorsed both shortness of breath and apnea as indicators of dying.

## Results

### Characteristics of Study Participants

Survey instruments were returned by 178 of 208 potential participants yielding a participation rate of 85.6%. The study sample included 76 EMTs and 102 EMT-Paramedics. The age range of all respondents was 19 to 64, with a mean age of 34.1 years (standard deviation [SD] = 10.8). The mean age of EMTs was 27.8 (SD = 8.3) and of EMT-Paramedics was 38.8 (SD = 9.09). The sample included 140 (78.7%) men and 38 (21.3%) women. The majority of the participants were white ( $n = 163$ , 91.6%). The majority of participants identified their educational background as "some college" ( $n = 102$ , 57.3%). The largest number of participants worked full time ( $n = 159$ , 89.3%). Participants' work experience in EMS ranged from 3 months to 42 years, with a mean of 12.2 years (SD = 9.5; Table 1).

### Frequencies of End-of-Life Calls

Perceptions of the types of end-of-life calls (Table 2) were significantly different in their frequency of occurrence ( $P < .001$ ). Calls to nursing homes occur most frequently; 47.8% indicated that they occur on every shift and another 34% indicated that they occur once or more each week. Calls to ALFs were indicated by 42% to occur once or more each week. Fifty percent of the participants indicated that they receive calls about a person

**Table 1.** Characteristics of Participants (n = 178).

	Sample	EMT-B	EMT-Paramedics
Age, M (SD)	34.1 (10.8)	27.8 (8.3)	38.8 (9.9)
Gender, n (%)			
Male	140 (78.7%)	52 (68%)	88 (86%)
Female	38 (21.3%)	24 (32%)	14 (14%)
Race, n (%)			
White	163 (92%)	67 (88%)	96 (94%)
African American	2 (1%)	2 (3%)	0 (0%)
Hispanic	2 (1%)	1 (1%)	1 (1%)
Asian	2 (1%)	2 (3%)	0 (0%)
Native American	3 (2%)	0 (0%)	3 (3%)
Biracial	2 (1%)	2 (3%)	0 (0%)
Multiracial	1 (.6%)	1 (1%)	0 (0%)
Missing	1 (1%)	1 (1%)	2 (2%)
Education, n (%)			
High school	13 (7.3%)	10 (13%)	3 (3%)
Some college	102 (57%)	42 (55%)	60 (59%)
Associate's degree	34 (19%)	10 (13%)	24 (24%)
Bachelor's degree	26 (15%)	13 (17%)	13 (13%)
Advanced degree	1 (.6%)	0 (0%)	1 (1%)
Missing	2 (1%)	1 (1%)	1 (1%)
Experience, M (SD)			
Years in EMS	12.2 (9.5)	5.0 (4.8)	17.5 (8.6)
Years in this job	8.6 (7.9)	2.8 (3.3)	13.0 (7.5)
Employment, n (%)			
Full time	159 (89%)	73 (96%)	86 (84%)
Part time	19 (11%)	3 (4%)	16 (16%)

Abbreviations: EMS, emergency medical service; EMT, Emergency Medical Technicians; EMT-B, Emergency Medical Technicians basic; M, mean; SD, standard deviation.

who is over age 65 and at home with an advanced chronic illness once or more each week. Calls for people who are terminally ill or dying were both endorsed as occurring once or more a month by 43.8% of the participants. Calls for nursing home residents who are dying were indicated to occur once or more a month by 35.4%. The DNR orders were seen once or more a month by 32.6%, while 57.9% indicated that they rarely or never saw MOLST. Hospice involvement was indicated to be seen 1 to 2 times every 3 months by 31.5% of the participants. Family conflict about a patient's wishes was indicated by 53.4% to be seen rarely or never.

### Signs and Symptoms of Dying Observed on Prehospital Calls

The 2 objective factors were the most frequently endorsed indicators that a patient is dying: diagnosis (n = 131, 76%) and hospice involvement (n = 140, 82%). The frequency of endorsement of the signs of dying that were: apnea (n = 129; 75%), mottling (95, 55%), delirium (n = 41; 24%), incontinence (n = 43; 25%), and anorexia/cachexia (n = 45, 26%). The symptoms that were the most frequently endorsed indicators of dying were shortness of breath (n = 82, 48%), dysphagia (n = 27, 16%), unmanaged pain (n = 25, 15%), and intractable

nausea and vomiting (n = 11, 6%; Table 3). Apnea and shortness of breath were both endorsed by 72 (56%).

### Medical Orders for Life-Sustaining Treatment

The most frequent functions of the MOLST form were endorsed as identifying wishes about intubation (n = 121, 74%), resuscitation (n = 120, 14%), life-sustaining treatment (n = 117, 73%), and CPR (n = 114, 70%; Table 4). Participants were asked how helpful MOLST are in the field and responded by saying: *Very helpful* (n = 71, 40%); *Somewhat helpful* (n = 85, 48%); and *Not helpful at all* (n = 11, 6%). Participants' opinions on MOLST were: (1) all people should have a MOLST (n = 78, 44%), (2) MOLST do not prevent unwanted hospitalization or treatment (n = 50, 29%), (3) completing MOLST is a waste of time (n = 3, 2%), and 43 (24%) participants chose (4) other and offered written opinions. Table 5 presents 6 themes that illustrate a range of opinions about MOLST. Fourteen participants identified problems with MOLST that include misuse of the form by primary care physicians and nursing homes, a lack of public awareness and education about the form, and the fact that families and providers can ignore the form and the patient's wishes.

### Discussion

Emergency calls for people who are nearing life's end provide important opportunities to meet the needs of dying patients and their families.<sup>18</sup> Prehospital providers were surveyed about their perceptions of these calls. One of the principal findings was that types of end-of-life calls occur in varying numbers. In addition, the findings illustrate a prehospital perspective on symptoms that may indicate a patient is dying. Finally, the results also illustrate prehospital providers' perceptions of the functions and utility of MOLST. The study findings illuminate an important intersection between prehospital and end-of-life care.

### Emergency Calls Near Life's End

Emergency calls to long-term care (LTC) facilities were perceived to occur with high frequency. Nursing home calls occur most often; 73.6% of the participants said that they happen on every shift, yet calls for a nursing home resident who was dying occurred much less often ( $\geq 1 \times$  month [35.4%];  $1-2 \times$  every 3 months [23.6%]). Calls to ALFs occur less frequently, but 42% said that they occur more than once weekly. Frequent calls to LTC facilities signal the need for attention to protocols for care when a resident's condition is changing within these settings. In the United States, older adults, particularly nursing home residents, comprise a large and growing percentage of those who visit emergency departments (EDs)<sup>19</sup> and of vulnerable populations who disproportionately use ambulance transportation for lower acuity conditions. Becker and colleagues found that among nursing homes, the primary reason for an emergency call was concern for the validity of a DNR order.<sup>20</sup>

**Table 2.** The Frequency of End-of-Life Calls.

How often do you respond to calls in which the person:	Every shift	Once or more each week	Once or more each month	1 to 2 times every 3 months	Rarely never	Significance
Is a NH resident	85 (47.8%)	61 (34.3%)	24 (13.5%)	0 (0%)	6 (3.4%)	<.001
Is an ALF resident with ACI	21 (11.8%)	75 (42.1%)	55 (30.9%)	11 (6.2%)	13 (7.3%)	<.001
Is 65+ and at home with ACI	17 (9.6%)	89 (50%)	46 (25.8%)	16 (9.0%)	8 (4.5%)	<.001
Is terminally ill	10 (5.6%)	46 (25.8%)	78 (43.8%)	32 (18.0%)	11 (6.2%)	<.001
Is dying	7 (3.9%)	23 (12.9%)	78 (43.8%)	44 (24.7%)	21 (11.8%)	<.001
Is a NH resident dying	4 (2.2%)	35 (19.7%)	63 (35.4%)	42 (23.6%)	31 (17.4%)	<.001
Is dying at home	1 (.6%)	26 (14.6%)	80 (44.9%)	43 (24.2%)	26 (14.6%)	<.001
Has a PHDNR	1 (.6%)	20 (11.2%)	58 (32.6%)	51 (28.7%)	44 (24.7%)	<.001
Is involved with hospice	2 (1.1%)	13 (7.3%)	70 (39.3%)	56 (31.5%)	35 (19.7%)	<.001
Has a MOLST form	4 (2.2%)	19 (10.7%)	29 (16.3%)	21 (11.8%)	103 (57.9%)	<.001
And family are in conflict about end-of-life decisions	1 (.6%)	10 (5.6%)	27 (15.2%)	44 (24.7%)	95 (53.4%)	<.001

Abbreviations: PHDNR, Prehospital do not resuscitate orders; MOLST, Medical Orders for Life Sustaining Treatment; NH, nursing homes; ACI, advanced chronic illness; ALF, Assisted Living Facility.

**Table 3.** Signs and Symptoms of Dying.

Signs and Symptoms <sup>a</sup>	Endorsements <sup>b</sup> n (%)
Hospice involved	140 (82%)
Diagnosis	131 (76%)
Apnea	129 (75%)
Mottling	95 (55%)
Shortness of breath	82 (48%)
Anorexia/cachexia	45 (26%)
Incontinence	43 (25%)
Delirium	41 (24%)
Skin breakdown	35 (21%)
Dysphagia	27 (16%)
Unmanaged pain	25 (15%)
Dysuria	15 (9%)
Intractable nausea/vomiting	11 (6%)

<sup>a</sup>Participants were asked "Which indicate that a terminally ill person is dying? Please check all that apply." Multiple items were endorsed.

<sup>b</sup>Percentages represent the number of participants who endorsed this item and exceed 100% because multiple responses were involved.

Conditions that may lead to potentially preventable ED visits among nursing home residents have been identified as including fever, chest pain, heart failure, mental status changes, gastrointestinal bleeding, urinary tract infections, metabolic disturbances, pneumonia, and falls.<sup>21</sup> It can be argued that many of these conditions could best be treated in the nursing home. The high use of emergency services by LTC facilities can increase both cost and distress for frail and vulnerable residents and suggests the importance of greater attention to residents' wishes near life's end.

People in the late stages of an advanced illness often express the desire to remain at home, yet many make difficult trips to EDs. Half (50%) of the study participants said that they receive calls about someone who is over age 65 and at home with an advanced chronic illness once or more each week and another 26% indicated that this type of call occurs more than once a month. In all, 44% said they are called to situations in which

**Table 4.** The Functions of the MOLST: Check all That Apply.

Function <sup>a</sup>	Endorsed <sup>b</sup> %
Identifies patient's wishes about intubation	121 (74%)
Demonstrates a patients desires for resuscitation	120 (74%)
Gives consent for life sustaining treatment	117 (72%)
Provides guidance about whether to start CPR	114 (70%)
Indicates the patient's HCP	64 (39%)
Guides decisions about transport to a hospital	58 (36%)
Gives information about wishes for organ donation	46 (28%)

Abbreviations: CPR, cardiopulmonary resuscitation; HCP, hospice care program; MOLST, Medical Orders for Life Sustaining Treatment.

<sup>a</sup>Participants were asked to check all the functions of the MOLST.

<sup>b</sup>Percentages represent the number of participants who endorsed this item and exceed 100% because multiple responses were involved.

a patient is terminally ill once or more a month, and another 26% indicated that such calls occur once or more each week. Forty-four percent also said that they receive calls in which someone is dying once or more each month. Diagnosis was expressed as an indicator of dying by 79% of the participants. These findings underscore how the functions of EMS may be changing as growing numbers of people live longer and die from one or more advanced chronic illnesses. Older adults with a diagnosis of advanced illnesses have been found to go to an ED more often than younger people<sup>22</sup>; in 2010, 19 454 ED visits were made by people aged 65 or older and 38% arrived by ambulance.<sup>18</sup> Shah and colleagues explored the frequency of EMS calls and found that approximately 70% were made by or about older adults with repeat visits being common during the last months of life.<sup>23</sup> Smith and colleagues found that 77% of the patients seen in the ED during the last month of life were admitted to the hospital and 68% of them died there.<sup>24</sup> Certainly, a crisis in home-based care and an EMS call can become a trigger for a cascade of unwanted events and hospital death.

Hospice involvement was endorsed by 39% of the study participants as being seen once or more a month. Hospice involvement was viewed as an indicator of dying by 73% of the

**Table 5.** Opinions about the MOLST.<sup>a</sup>

Theme	n (%)	Representative quote
Rarely seen—no opinion	14 (8%)	"I don't have enough experience with them to have an opinion."
Problems with the MOLST	10 (6%)	"Most nursing homes call for transport of patients even in end of life situations when they have MOLST or PHDNR forms indicating the patient doesn't want it."
People with chronic illness should have one	9 (5%)	"It should be filled out by any chronically or terminally ill person."
Very helpful—great tool	4 (2%)	"The MOLST form is an excellent tool for EMS to quickly learn about a patient's wishes."
Everyone should have one	3 (1.5%)	"If they help take care of the patient, everyone should have one."
Optional	3 (1.5%)	"They are fine for people who want them."

Abbreviations: EMS, emergency medical service; MOLST, Medical Orders for Life Sustaining Treatment; PHDNR, Prehospital do not resuscitate orders.

<sup>a</sup>43 (24%) provided written opinions.

participants. Despite the fact that patients who receive hospice services are made aware of the 24-hour on-call assistance, some still make emergency calls because this is an automatic response to the observation of perceived distress. Yet, the reasons that families call EMS when the signs of death are present or when the person has wishes not to be resuscitated are not well understood.<sup>25</sup> Patients and families who call 911 may be experiencing a physical or psychosocial crisis related to poor symptom control or a conflict in wishes about life-improving and life-prolonging measures.<sup>26</sup> Hospice programs provide comprehensive care for people who are dying but their involvement does not preclude EMS calls.

### Signs and Symptoms of Dying

Prehospital providers frequently encounter patients who are nearing death; this study aimed to explore the signs and symptoms they perceived as indicators that a person is dying. Participants indicated that diagnosis and the involvement of hospice strongly indicates that someone is dying. The combination of signs and symptoms that are the most frequent indicators included apnea, mottling, and shortness of breath. Many EMS agencies, including the agency studied, utilize the Medical Priority Dispatch System that encompasses a set of 32 codes to determine the acuity and priority of a call.<sup>27</sup> Apnea and shortness of breath are signs a person is dying that are closely related to difficulty breathing/breathing problems, which is a common dispatch code and one for which prehospital providers are taught time-critical interventions. Only one of the symptoms presented on the survey (breathing difficulty) is also one of these codes. Either apnea or shortness of breath was checked;

139 (78%) and 72 (56%) checked both as signs a person is dying. The focus of prehospital care is on the diagnosis and treatment of acute illnesses and injuries or the stabilization of patients for ongoing treatment.<sup>28</sup> Stone and colleagues found that EMT-Paramedics' clinical skills such as endotracheal intubation or defibrillation were more developed than their preparation for end-of-life assessment.<sup>29</sup> The findings build on and extend knowledge about how prehospital providers are taught to think about and assess end-of-life calls and may underscore a framework for assessment that differs from hospice and palliative medicine.

Study participants encounter DNR orders relatively infrequently; 33% indicated seeing them once or more a month and another 29% indicated they are seen only 1 to 2 times every 3 months. The MOLST were also seen infrequently; 57.9% said that they encountered MOLST rarely to never, yet 88% said that MOLST were either very helpful or somewhat helpful. However, less than half (44%) indicated that all people should have MOLST. The most frequently endorsed functions of MOLST (intubation, resuscitation, life sustaining treatment, and CPR) align with time-critical decisions that prehospital providers are expected to make at the moment.

Conflict between the patient's and family's wishes about end-of-life care was found infrequently, with well over half (58%) of the participants indicating that it occurs only rarely never. Although conflict about a patient's short-term prognosis occurs with relatively low frequency, it can be a high-intensity event. Prehospital providers are distressed when there is conflict between a patient's expressed wishes and those of a family member.<sup>29</sup> Because prehospital providers are taught to act quickly and decisively, working through confusion, unavailable forms, or conflict is difficult.<sup>30</sup> Education about the importance of written directives together with protocols that can prepare people and their families about the dying process have the potential to decrease the number of emergency calls.

### The Disconnect

When an emergency call is placed, EMT-Paramedics and EMTs are trained to "do something" and act quickly to save a life. These actions are ingrained and often automatic, with the expectation that care will occur without pause. When called to a situation in which a person is nearing the end of an advanced illness and who may not wish to be resuscitated, prehospital providers are faced with a contradictory situation; not "doing something" is directly opposed to their long-held values and principles—even if it is apparent that the person is dying or does not wish to be resuscitated. Yet, instituting life-saving measures and transportation to a hospital can lead to unwanted and unnecessary invasive procedures that are potentially harmful, traumatize families, and be viewed as a lack of respect for the patient's autonomy.<sup>30</sup> Moreover, when the prehospital team arrives in an ED with a person who is near death, they can face disapproval from hospital providers who may question why the person was transported and lack training in palliative care protocols.<sup>31</sup> Prehospital providers face the difficult dilemma of not

acting on their basic principles and ignoring their automatic responses or changing their strategies in difficult situations. There is a discrepancy between the life-saving techniques and resuscitative measures that are taught to prehospital providers and the skills and knowledge that is needed to provide care for people who are seriously ill and near the end of life.<sup>32</sup> The absence of written directives in situations where people are dying creates an intense and uncertain context for medical decision making.

This study had several limitations that are important to note. First, because the investigation of the intersection of prehospital and end-of-life care is in a very early, exploratory stage, only survey methodology with preliminary item construction could be utilized to document occurrences and describe perceptions. However, these data can be viewed as an important first step toward considering prehospital providers' education and practice guidelines on end-of-life calls. The use of in-depth interviews that gather qualitative data would be important in future studies to add depth to the investigation of prehospital providers' experiences with end-of-life calls. The significant limitations of data that involve recall and perception are acknowledged. The list of signs and symptoms of dying is not expansive and involves conceptual overlap. Finally, the survey was cross-sectional and delivered to a convenience sample within only one organization so the results are not generalizable. Future studies would be strengthened by the use of a larger database.

Only 3 decades ago, prehospital providers were legally required to resuscitate all patients they were called to assist even if the person was terminally ill and did not want resuscitation. The development of legally recognized written directives such as DNR orders and MOLST forms is changing the culture of EMS by providing clear instructions about patients' wishes.<sup>31</sup> Although many hospitals are beginning to introduce palliative care within EDs, this study highlights the important potential for synergy between prehospital and palliative care. There are opportunities to improve the quality of care at the end of life in the community if prehospital providers are enabled to make appropriate decisions about care and the need for referral. The high cost of emergency care at the end of life together with the potentially traumatizing experiences of invasive life-sustaining treatments can be moderated by collaboration between prehospital, hospice, and palliative care providers. Future research is needed to understand how and what prehospital providers do when faced with people who are in the end stage of an advanced illness and how they navigate the existence or absence of documents. Future research is also needed to develop and test interventions that could be useful in assisting with end-of-life decisions and care in the field. The possibility of integrating palliative care pathways into prehospital emergency care and education<sup>33</sup> could be both a challenge and an opportunity for the future.

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