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Original
Contributions

MISSED OPPORTUNITIES: INTEGRATING PALLIATIVE CARE INTO THE EMERGENCY DEPARTMENT FOR OLDER ADULTS PRESENTING AS LEVEL I TRIAGE PRIORITY FROM LONG-TERM CARE FACILITIES

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☐ **Abstract—Background: Early integration of palliative care from the emergency department (ED) is an underutilized care modality with potential benefits, but few studies have identified who is appropriate for such care. Objective: Our hypothesis is that patients aged 65 years or older who present to the ED as level I Emergency Severity Index from a long-term care (LTC) facility have high resource utilization and mortality and may benefit from early palliative care involvement. Methods: We performed a retrospective chart review of patients aged 65 years or older who arrived in the ED of an academic suburban southeastern level I trauma center from an LTC facility and triaged as level I priority. The ED course, hospital course, and final outcomes were analyzed. Results: Of the 198 patients studied, 54% were deceased 30 days after discharge, with only 29.8% alive at 12 months. Admitted patients had a median hospital length of stay of 5 days and 73% required intensive care. Formal palliative care intervention was provided in 40.4%, occuring a median of 4 days into hospitalization and leading to 85% downgrading their advanced directive wishes, and discharge occuring a median of 1 day later. Few formal palliative care interventions occurred in the ED (9.1%). Conclusions: Elderly patients from LTC facilities presenting with severe acute illness have high mortality and seldom receive early palliative care. Introduction of palliative care has the ability to change the course of treatment in this vulnerable population and should be considered early in the hospitalization and, where available, be initiated in the ED.**

☐ **Keywords—palliative care; critical care; long-term care; aged; aged 80 and over; humans; hospice care**

INTRODUCTION

The American College of Emergency Physicians' Choosing Wisely Campaign of 2013 cited the importance of engaging palliative care in the emergency department (ED) for "patients likely to benefit"; though how to identify which patients would benefit from formal palliative care involvement is unknown (1). Palliative care is not synonymous with end-of-life care or hospice, but is instead defined by the Center to Advance Palliative Care as care that "is focused on providing patients with relief from the symptoms, pain, and stress of a serious illness—whatever the diagnosis. Palliative care is appropriate at any age and at any stage in a serious illness, and can be provided together with curative treatment" (2,3). Early integration of palliative care, starting in the ED,

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has the potential to improve patient care to be more congruent with patient and family goals and values; it may also avoid unwanted and costly care. This is particularly important, as the care provided in the ED often initiates a trajectory that is continued throughout the hospitalization (4,5). Multiple recent publications suggest the importance of bringing palliative care to the ED while noting multiple barriers to doing so, such as ED volume, time, and clinician attitudes (6–12). Despite this, only 3% of palliative care referrals are initiated by emergency physicians, and few departments have a mechanism to provide such care (13). One study notes the lack of criteria to suggest when palliative care should become involved in the ED (14). In 2016, the Society for Academic Emergency Medicine Consensus Conference Working Group on shared decision making for palliative care highlighted the need to be able to identify those most likely to benefit from palliative care in the ED as one of their key research questions (13). Similarly, the American College of Emergency Physicians has described the potential benefit of a decision tool that could be created to identify these same individuals (5). As functional status is correlated to survival and, therefore, may suggest the need for palliative care in the setting of advanced illness, we hypothesized that elderly patients with comorbid disease presenting with acute illness may have significant unmet palliative care needs (15,16).

The benefit of early introduction of palliative care has been cited in multiple articles in the oncology literature. Early palliative care for these patients is associated with a decrease in medically ineffective intensive interventions, reduced caregiver burden, and improved quality of life, without negatively impacting survival (17–19). Less research exists on the integration of palliative care in non-oncologic populations. It has been reported that palliative care is utilized for only about 5% of patients with terminal non-cancer diagnoses (20). Recent studies have explored integration of palliative care for patients with heart failure, chronic obstructive pulmonary disease, and left ventricular assist device, with similar benefits reported (20–22). A study focusing on a subset of medical intensive care unit (ICU) patients found that under usual care, palliative involvement often does not occur until late in the hospital stay, while another highlighted significant reductions in hospital admissions, longer utilization of hospice services, and fewer in-hospital deaths for patients that received palliative care management (23,24).

Although it has been noted that admission from a long-term care (LTC) facility may indicate a high likelihood of unmet palliative care needs, current literature has yet to explore the possibility of using the combination of acute illness severity and nursing facility residence as screening criteria from the ED (4,25). We hypothesize that patients aged 65 years and older who present to the ED as a level I Emergency Severity Index (ESI) from an LTC facility have prolonged hospitalizations with high resource utilization and significant mortality and therefore may be a population for whom early palliative care involvement should be considered.

METHODS

Study Design and Setting

This study is a retrospective review of the ED course, hospital course, and final outcomes of all patients aged 65 years or older transported to the ED from a LTC who were triaged as a level I triage priority, using the ESI. As multiple studies have shown consistent strong correlations of ESI with need for hospitalization, level of care, resource utilization, and 6-month mortality, we believe this tool will allow us to identify and target an at-risk population that would benefit from palliative care expertise (26–29).

For the years 2014 and 2015, we screened ED patients' electronic medical records from a single academic suburban southeastern level I trauma center with annual ED census >100,000 for the following chart review criteria via electronic medical record query: ESI level I triage status at the time of ED arrival and aged 65 years or older. The charts were then manually reviewed for inclusion criteria of patient residence at a LTC facility (assisted or skilled living facility). Chart review was performed by medical students with general knowledge of the aims of the study. The majority of the chart review was completed by one fourth-year student. Using electronic medical record surveillance and Internet searches for obituaries, patients were followed for a minimum of 15 months from the time of admission to assess for deaths up to 1 year from the time of discharge. The senior attending on the team conducted a careful data validation process for key variables, including consultation with palliative care, disposition from the ED and hospital, date of death, and code status. Data were collected in an Excel document and analyzed using SAS software, version 9.4 (SAS Institute, Cary, NC).

The original sampling period of 2 years was selected to estimate the rate of palliative care involvement in this group of patients known to the authors as requiring significant hospital resources with what we anticipated was a significant mortality rate. Results were analyzed initially using descriptive statistics. We used the χ^2 test to compare proportions between groups. Our analysis plan to use parametric statistics for continuous variables was modified to use nonparametric statistics when our results demonstrated non-normal distributions.

Specifically, we used Wilcoxon Mann-Whitney and median two-sample test.

Measures

The ED course and hospital course were assessed for advanced directive status on arrival (hereafter, code status), survival to ED disposition, admission level of care, change in code status during hospitalization, palliative care service consultation, hospice referral, code status at discharge, and discharge disposition. The details of who accomplished code status discussions and implementation of palliative services were also reviewed. Formal palliative care involvement was defined as services performed either by an official consult team or by supportive care nurses. These supportive care nurses were embedded in the ICU and saw patients per request from the primary team, as well as any patients who were deemed to have a high likelihood of unmet palliative care needs; in addition, a formal palliative care consult could occur at the request of the primary team. If the primary team documented a code status discussion or change in code status without official consult, they were considered to have performed a basic palliative intervention, referred to herein as primary team palliative discussion.

Code status was categorized as either full, limited do not resuscitate (DNR), or comfort care. Full code described a patient or surrogate who wished all interventions to be performed in the setting of an active or impending respiratory or cardiac arrest. Limited DNR status described patients that did not wish to have cardiopulmonary resuscitation (CPR) performed, but still wish to be intubated or have other life-sustaining interventions, if necessary. Comfort care described a code status of a patient who did not want aggressive interventions, such as CPR, intubation, or ICU level of care, with a focus instead on symptom control.

Institutional Review Board Approval

The study was approved by the Wake Forest Baptist Hospital Institutional Review Board for expedited review. A waiver of consent was obtained for the examination of existing records.

RESULTS

During the 24-month enrollment period, there were 198 patients that met inclusion criteria. Demographic information is listed in Table 1. Most patients arrived with full code status (58.6%), despite having a median age of 81 (interquartile range [IQR] 14) years. Patients arriving with full code status (n = 116) were younger than those with advanced directives dictating care limitations (n = 82) (median age 79.5 [IQR 12] years versus 85 [IQR 12] years, respectively); this difference was statistically different by the median two-sample test ($Z = 0.001$).

ED Disposition

Thirteen patients died in the ED, 11 were discharged back to their nursing facility, and 11 patients were transferred to an outside hospice care facility. Of the 198 patients, 163 patients were admitted to the hospital, 44 to a floor bed (27.0% of admissions) with 119 (73.0%) admitted to an ICU. Fifty-eight (35.6%) of the admitted patients required intubation and mechanical ventilation. Median hospital length of stay for all admitted patients was 5 days (Table 1).

Change in Code Status

About half (48.5%) of the patients experienced a downgrade in code status to a less-aggressive advanced

Table 1. Patient Demographic Characteristics

Characteristics	Data
Sex, n (%)	
Male	89 (44.9)
Female	109 (55.1)
Code status on arrival, n (%)	
Comfort care	4 (2.0)
Limited do not resuscitate	78 (39.4)
Full code	116 (58.6)
Resource utilization, median days (IQR)	
LOS for admitted patients (n = 163)	5 (8)
LOS for ICU patients (n = 119)	7 (8)
LOS for those with palliative care involvement (n = 71)	5 (9)
LOS for those without palliative care involvement (n = 92)	5.5 (5)
ICU days (ICU patients only, n = 119)	3 (4)
Ventilator days (ventilated patients only; n = 58)	2 (4)
Triage level I criteria, n (%)	
Hypoxia	89 (45.0)
Hypotension	50 (25.3)
Stroke	37 (18.7)
Tachycardia	9 (4.6)
Cardiac arrest	5 (2.5)
STEMI	3 (1.5)
Trauma	3 (1.5)
Bradycardia	2 (1.0)
Admitting diagnosis, n (%)	
Respiratory failure	78 (39.4)
Sepsis	52 (26.3)
Ischemic stroke	18 (9.1)
Ischemic cardiovascular disease	15 (7.6)
Hemorrhagic stroke	12 (6.1)
Fall	8 (4.0)
Other acute neurologic disorder	6 (3.0)
Acute kidney injury/electrolyte disorder	5 (2.5)
Miscellaneous	4 (2.0)

ICU = intensive care unit; LOS = length of stay; STEMI = ST-elevation myocardial infarction; IQR = interquartile range.

directive status. Two patients were upgraded to full code status from limited DNR status; curiously, both were older than 90 years of age. Most of the advance directive discussions were accomplished by the primary team caring for the patient, while the majority of formal palliative care involvement was accomplished by the embedded supportive care nurses without the official palliative care consult service. For 51 (25.8%) cases, there was no documentation of code status discussion in the record, and in these cases, code status was not changed for the admission. Formal palliative care involvement occurred a median of 4 (IQR 6) days into the hospitalization and these patients were discharged soon after, with a median of 1 (IQR 2) day. Few palliative care discussions or interventions occurred while in the ED, with 0 official consults by palliative care physicians; 18 of the 56 supportive care nurse interventions in this study population and 17 of the 67 primary team interventions in this study population occurring during the ED stay.

Deaths

A total of 139 (70.2%) patients were dead by 12 months after hospital discharge. Table 2 lists the time from admission until death occurred with cumulative percent of deaths over time. Approximately 22% of the population did not survive to hospital discharge and >50% were dead by 30 days after hospitalization.

Table 2. Deaths from Hospital Admission to 12 Months Post-hospital Discharge

Status	Total, n (%) (N = 198)	Cumulative %
Hospital death	43 (21.7)	21.7
Death 1–30 d post-discharge	64 (32.3)	54.0
Death 31–90 d post-discharge	20 (10.1)	64.1
Death 91–365 d post-discharge	12 (6.1)	70.2
Alive at 12 mo	59 (29.8)	100.0

Outcome by Palliative Care Intervention

Palliative care intervention was separated into 3 categories: those who did not receive intervention, those with palliative discussion performed by the primary team, and those who received formal palliative care intervention accomplished by the official palliative care consult service or ICU embedded supportive care nursing staff (Table 3).

For the no-intervention group, code status was maintained from a previous hospitalization (or a full code status was implemented and continued); 75% of this group had a full code status. For the patients in this group, there was no discussion documented in the chart concerning the patient's advance directive preferences during present hospitalization. All but 1 patient survived the hospitalization; this 1 patient arrested on arrival to the ED and could not be resuscitated. Survival after discharge was higher in this group compared to the group receiving palliative care intervention; however, by 12 months, 37.3% of patients had expired. This group had the lowest percentage of patients requiring ICU level of care and ventilatory support of the study population (Table 3).

In the group in which goals of care discussions were conducted by the primary team with the patient or surrogate, a downgrade in code status occurred in 55.2% of cases. Two patients had an upgrade in code status. Four patients were transferred to hospice, 2 from the floor and 2 from the ED, without the help of the palliative care team, using only social work. Of this group, 43.3% died in the hospital and 12% more died by 30 days post-discharge (55.2%). The severity of illness of this group was greater than the no-intervention group, with a larger percentage of patients requiring ICU level of care and ventilatory support, but less so than the formal palliative intervention group.

Finally, in the formal palliative care intervention group, downgrade of code status occurred in 85% of cases. Seventy percent of these interventions were accomplished by supportive care nurses. Compared to those who did not receive such palliative care involvement, there was a trend toward fewer in-hospital deaths for the formal palliative care group (16.3% vs. 25.4%), but this difference was not statistically different. By 30 days post-discharge, 76.3% in the palliative care intervention group were deceased versus 39.0% of the remainder of the study population. This was the sickest group, with the largest percentage of patients requiring ICU level of care and ventilatory support.

DISCUSSION

The results presented here demonstrate the high mortality of elderly patients residing at LTC facilities who present with severe acute illness and the role that palliative care currently plays in their overall care at this institution. As stated by Grudzen et al., "the emergency department presents a key decision point at which providers set the course for a patient's subsequent trajectory and goals of care" and the data provided herein propose a population that could be considered for palliative care initiation during their ED course in order to alter this trajectory (12). These data are idea-generating and we believe that EDs should consider early palliative consultation or discussion for this population within the confines of the abilities of the hospital.

The study population was seriously ill, with almost three-fourths requiring ICU level care. Greater than half

Table 3. Resource Utilization and Death Rates Stratified by Palliative Care Involvement Groups

Group	n	ICU Admission n (%*)	Ventilator Required n (%*)	Deaths at 30 d Post-discharge n (%*)	Deaths at 12 mo Post-discharge n (%*)
Formal palliative care involvement	80	54 (67.5)†	30 (37.5)‡	61 (76.3)§	74 (92.5)‖
Primary team palliative discussion	67	39 (58.2)	19 (28.4)	37 (55.2)	46 (68.7)
No palliative care	51	26 (51.0)	9 (17.6)	9 (17.6)	19 (37.3)

ICU = intensive care unit.

* As a percent of patients in each group.

† This proportion was not statistically significantly greater than the proportion of patients admitted to ICU in the combined two groups that did not receive formal palliative care consultation (55.1%, $\chi^2 = 3.1$, $p = 0.08$).

‡ This proportion is statistically significantly greater than the proportion of patients needing ventilation in the combined two groups that did not receive formal palliative care consultation (23.7%, $\chi^2 = 4.34$, $p = 0.04$).

§ This proportion of deaths is statistically significantly greater than the proportion of deaths in the two combined groups that did not receive formal palliative care consultation (38.9%, $\chi^2 = 43.1$, $p < 0.00001$).

‖ This proportion of deaths is statistically significantly greater than the proportion of deaths in the two combined groups that did not receive formal palliative care consultation (55.1%, $\chi^2 = 45.6$, $p < 0.00001$).

of the study population was full code upon arrival, suggesting either that the patient or family was requesting aggressive care or that such a conversation was never held and desire for such care was assumed. Assumption of full code may be due to the acuity of the situation, but other barriers, such as staffing issues, time constraints, and physician attitude or knowledge, can also play a role (11).

Palliative care discussions were often delayed when they took place at all, but when they occurred, they often changed the trajectory of care. Only about one-quarter of such discussions occurred in the ED and only 9.1% of formal palliative care interventions occurred in this setting. Patients were often discharged soon after such an intervention due to change in the goals of care. This study revealed that for about half of the group, the serious event leading to hospitalization acted as a catalyst for downgrade in code status. Conversely, about a quarter of patients did not have any sort of palliative intervention documented, including care provided by the primary team, a supportive care nurse, or the palliative care consult service, which leaves room for improvement in a population with such high mortality. Interestingly, palliative care–trained physicians staffing the consult service performed the minority of formal palliative care interventions, likely due to staffing constraints, suggesting that the need for hospital expansion of palliative care teams or education among physicians who act as primary providers, including emergency physicians and hospitalists, in the delivery of similar services.

More than half of the study population died within 30 days of hospital presentation, calling into question quality at the end of life and the possibility for aggressive palliative care intervention when appropriate. As >60% of this population died just 3 months after hospital discharge, some may even benefit from hospice level of care, as this type of palliative care "is provided when the patient has a terminal illness and a life expectancy of 6 months or fewer if the disease runs its usual course" (2). Such referral during hospitalization may allow for increased benefits of hospice care documented elsewhere, including increased quality of life, decreased depressive symptoms, and increased congruence with patient wishes at end of life, such as place of death (17,30).

Interestingly, the stratification of data by palliative care intervention shows congruence with severity of illness and mortality. Those who did not receive any palliative care intervention had higher survival than the rest of the population, and fewer required ICU level of care and ventilatory support. Though more than one-third were deceased at 12 months, it seems that these patients were recognized as being more likely to survive in the short term by the care team, thereby making a code status discussion less immediately pertinent.

Conversely, those who received palliative care interventions had the most severe acute illness, with a large proportion requiring ICU level of care and ventilatory support. A large majority of this group was deceased by 30 days, although fewer had in-hospital deaths than those with palliative care intervention by the primary care team. A review of the palliative care literature suggests that 50%–90% of patients prefer to die at home, but 50%–60% of these patients die in hospitals; our study shows that patients who had formal palliative care involvement tended to have more out-of-hospital deaths (30). The group receiving palliative care intervention from the primary team alone had the highest in-hospital mortality. Though considerable support is accomplished by the primary teams, with many patients having a downgrade in code status and a few even discharged to hospice, not all code status discussions are equivalent, and many of these patients may have benefitted further from formal palliative care intervention.

Inclusion of palliative care into the armamentarium of emergency physicians may require deliberate alteration in practice patterns, changing the momentum from providing critical care and life-saving treatments to palliation; changing our focus from a single acute event to the big picture of overall health status and quality of life. Although such care is not appropriate for all, and certainly functional status must be considered, care may be improved by at least considering this as an adjunct to usual practice. Further research may examine new modalities of introducing palliative care at the early stage of a patient's hospital course via electronic medical record notification to the provider or directly to the hospital's palliative care team for patients most likely to benefit.

Limitations

As this was a retrospective review, documentation by the hospital staff was the only way to determine whether code discussions occurred and the outcomes of such discussions. It is possible that discussions might have been taking place earlier in the hospitalization than documented, and that code status changes were made later as patients and families reevaluated their goals in the setting of severe illness. It is also not clear what led to palliative discussions taking place when they did and how this may have correlated to the illness course. It may be that the length of time from admission to palliative care intervention could be related to the hospital's staffing and ability to complete consults in a timely manner or to clinical worsening that prompted palliative intervention. Alternatively, it is unknown whether the opportunity to have goals of care discussions early in the hospitalization or in the ED existed for patients lacking capacity, as family may not have been present or reachable, contributing to the low percentage of ED palliative intervention.

Another limitation inherent in the nature of a retrospective chart review is missing data. Specifically, assessing mortality for patients discharged from the hospital was predicated on the existence of publicly published information regarding the patient's death. This leads to a possible conservative mortality figure and therefore may underestimate the mortality of this population.

As a single-center study, the findings presented here may not be generalizable to other hospitals with differing availability of palliative care resources. Finally, though the ESI has been validated for interrater reliability, there may be variability among institutional practice patterns and, therefore, the level I designation may not be directly generalizable to other institutions.

CONCLUSIONS

In summary, elderly patients from LTC facilities presenting with severe acute illness have high mortality and seldom received early palliative care in this single-center retrospective study. Introduction of palliative care has the ability to change the course of treatment and improve end-of-life care, and should be considered early in the hospitalization or be initiated from the ED for such patients.

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ARTICLE SUMMARY

1. Why is this topic important?

Palliative care often occurs late in the trajectory of illness, therefore decreasing the benefits of such care. The value of palliative care has been widely recognized, but it remains unclear which patients are most appropriate for such care from the emergency department (ED).

2. What does this study attempt to show?

This study suggests that elderly patients 65 years or older arriving from a long-term care facility as a level I triage priority have significant mortality and resource utilization and may therefore be a population who would benefit from early palliative care involvement.

3. What are the key findings?

The mortality in this population was very high, with only about half surviving 30 days post-discharge. The involvement of palliative care often occurred late in the hospitalization, but frequently changed the trajectory of care. Those who received official palliative care consultation were less likely to die in the hospital than their counterparts.

4. How is patient care impacted?

The data are idea-generating, and suggest a patient population that may benefit from early palliative care consultation as early as upon ED evaluation.