

OPEN

# Incorporating Early Palliative Medicine Consultation Into Daily Morning Huddle in the ICU

**OBJECTIVES:** Early palliative medicine consult in the ICU can significantly improve outcomes in high-risk patients. We describe a pilot study of including a recommendation for palliative medicine consult in the ICU morning huddle.

**DESIGN:** A prospective, observational, quality improvement study.

**PATIENTS AND SETTING:** Adult patients (age above 18 yr) admitted with cardiac arrest, stage IV cancer, admission from a long-term acute care facility, and circulatory shock on mechanical ventilation to the medical ICU.

**INTERVENTIONS:** We aim to assess the effect of an early palliative medicine consultation in selected high-risk patients on change in code status, referral to hospice, tracheostomy, and or percutaneous gastrostomy tube placement.

**MEASUREMENTS AND MAIN RESULTS:** There were 83 patients who triggered an early palliative medicine consult. Palliative medicine consultation occurred in 44 patients (53%); 23 patients (28%) had a palliative medicine consult within the first 48 hours, 21 (25%) had a palliative medicine consult afterwards. There was a significantly higher number of patients who de-escalated their code status in the palliative medicine consult group compared with the no palliative medicine consult group (63.6% vs 7.7%); however, the number was higher in the late palliative medicine consult group (71.4% vs 56.5%). There were more patients referred to hospice in the palliative medicine consult group. No difference in length of stay was observed.

**CONCLUSIONS:** Early palliative medicine consultation in the daily ICU morning huddle is achievable, can produce a palliative medicine consultation in most cases, and results in a significant change in code status toward less aggressive measures.

**KEY WORDS:** critically ill; do-not-resuscitate orders; palliative medicine; resuscitation decisions

Palliative medicine consultation in the ICU for high-risk, critically ill patients has a significant impact on change in code status, referral to hospice, ventilator days, rate of tracheostomy, emergency department visits, and ICU readmissions (1). Some studies have shown a further increase in beneficial outcomes if the consult is done earlier than 24 hours (2). This is especially helpful if certain triggers are identified to prompt a palliative care consultation (3). Accordingly, guidelines recommend integrating palliative medicine into critical care practice (4). Nonetheless, palliative medicine remains underutilized in most ICUs, even for patients at high risk of dying (5). This is, in part, due to lack of understanding of the role and impact of palliative medicine and the heterogeneity of approaches (6).

The morning huddle is a multidisciplinary team meeting with a focus on the current status of multiple aspects of patient care (7). In the ICU, team huddle

Arslan Babar, MD<sup>1</sup>

Katherine Eilenfeld, DO, FACOI<sup>2</sup>

Sura Alqaisi, MD<sup>1</sup>

Mahmoud MohamedElfadil, MD<sup>1</sup>

Mohammed J. Al-Jaghbeer, MD<sup>1,3</sup>

Copyright © 2021 The Authors. Published by Wolters Kluwer Health, Inc. on behalf of the Society of Critical Care Medicine. This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

DOI: 10.1097/CCE.000000000000459

can facilitate patient transfer, reduce length of stay, improve patient outcomes, as well as bridge the deficits of communication between the multilayered patient care (8). In theory, it represents a perfect spot in the busy ICU workflow to present the caregivers a reminder for necessary interventions, including a timely palliative medicine consult.

We describe a pilot study of including a prompt of a palliative medicine consultation in the daily ICU morning huddle.

## METHODS

### Setting and Population

This pilot study took place in the medical ICU of Fairview Hospital, a Cleveland Clinic regional hospital with 480 beds and 26-bed medical ICU. Adult patients, 18 years and older, who would be expected to be admitted for more than 24 hours were included. Pregnant patients were excluded. Early palliative medicine consultation was defined as consultation order placed within 48 hours of ICU admission. Late palliative medicine consultation was defined as consultation order placed after 48 hours of ICU admission. The institution review board at Fairview Hospital determined that this project involved an internal quality assessment and improvement activity that is part of standard healthcare operations in the local setting rather than research and did not require an approval.

### Interventions

The morning huddle is scheduled daily at 8:30 AM, before the ICU rounds commence. The huddle is comprised of critical care physicians, a critical care fellow, internal medicine residents, the ICU charge nurse, respiratory therapists, a clinical pharmacist, and nurse and/or social work case managers. In the huddle, every patient is briefly discussed, and each of the aforementioned caregivers offers a brief update. This is also noted on the unit's dry erase board that is updated at least once a day.

The case managers screened all the newly admitted patients for four predetermined triggers: admission after a cardiac arrest, stage IV cancer, admission from a long-term acute care facility, and circulatory shock on mechanical ventilation. These factors were determined based on prior internal quality assurance work

done within the Cleveland Clinic. At morning huddle, the case managers announced the patients who triggered the early palliative medicine consultation. We asked the primary teams to identify other patients who may benefit from a palliative medicine consultation who did not meet these triggers. Afterwards, the case managers were instructed to update the white board on patients who may benefit from early palliative medicine consultation in a clearly designated area. There were no orders placed nor further reminders until the next morning.

Finally, the workflow of obtaining a palliative medicine consultation was not altered, and the critical care team continued to request palliative medicine consultations on patients when clinically indicated even if the patient did not meet the triggers. At the time of this project, there was no other quality improvement project to improve early palliative medicine consult in the ICU.

We received daily data on patients that triggered for an early palliative medicine consultation. At admission, demographic data were collected including age, gender and race, code status, and medical comorbidities for which the Charlson Comorbidity Index was calculated. The chart was reviewed at 48 hours of admission and at ICU discharge. At that time, the following data were collected: presence of palliative medicine consultation order, timing of palliative medicine consultation order—whether early or late, code status at ICU admission and on discharge, change in code status, ICU length of stay, tracheostomy or a percutaneous gastrostomy (PEG) tube placement, and refer to hospice. Finally, the team identified the high-risk patients who did not receive a palliative medicine consultation despite the trigger criteria having been met and interviewed the critical care team to identify the reason.

This study was approved with a waiver of informed consent (number 19-1541) by the Cleveland Clinic Institutional Review Board.

## RESULTS

There were 615 patients admitted to Fairview between December 24, 2019, and March 10, 2020. Data collection was stopped prematurely due to change in workflow related to the coronavirus disease 2019 (COVID-19) pandemic. There were 83 patients who

met the trigger criteria for an early palliative medicine consultation. The sample had a median age of 71 years (range, 22–88 yr), 53 (63.9%) were male, and 75 (90.4%) were Caucasian. The baseline demographic and clinical data are presented in **Table 1**.

Forty-four patients (53%) received a palliative medicine consultation, 23 patients (28%) had an early palliative medicine consultation, and 21 (25%) had a late palliative medicine consultation. Thirty-nine patients (47%) who met the criteria for a palliative medicine consultation did not have one ordered. The most common reason for not obtaining an early palliative medicine consult was a clinical decision by the treating team (61% of cases). Other reasons were hospitalization for less than 48 hours; family's preference; patient's refusal or withdrawal of life-sustaining measure/artificial life support within 48 hours (**Table 2**).

Among patients who triggered a palliative medicine consultation, those who received the palliative medicine consultation transitioned more to do not resuscitate (DNR)/do not intubate (DNI) code status versus those who did not receive a consultation (63.6% vs 7.7%;  $p \leq 0.0001$ ). Additionally, a higher number of patients in the late palliative medicine cohort were transitioned to DNR/DNI (71.4 vs 56.5;  $p = 0.0001$ ) as well. A statically higher number of patients who received a palliative medicine versus patients who did not receive a consultation were transitioned to hospice (36% vs 2.6%;  $p = 0.0001$ ). There was no observed differences in rates of tracheostomy or PEG tube placement between the two groups. The other ICU outcomes are in **Table 3**.

In the entire cohort, 20 patients (25%) died within 60 days, nine (11%) died after 60 days, 36 (45%) were alive after 60 days, and for 16 patients (19%), the mortality data were not available.

## DISCUSSION

This study is the first to show that an early palliative medicine consultation, proposed in the morning huddle in the ICU, can lead to positive outcomes. Most importantly, it showed that a statically significant number of patients who received an early palliative medicine consultation were transitioned to DNR/DNI code statuses. The study also showed that a significant number of patients who received a palliative medicine consultation were transitioned to hospice. There

was no observed difference in length of stay nor the rates of tracheostomy or PEG tube placement in between the groups. Studies have shown that palliative care improved quality of life of patients and their families and reduced lower hospital and ICU admission rates and resulted in an overall lower healthcare costs (9–11).

Prior studies have shown a benefit of palliative medicine consultation by proactively screening high-risk patients by a research team (4). However, this approach, albeit effective research methodology, may not be pragmatic in the busy daily ICU workflow. A change in daily behavior, like in the morning huddle, can be more beneficial on the long term by imbedding a new culture to the fabric of the ICU care. A study by Villarreal et al (12) used prerounding between palliative medicine and critical fellows before rounds. This was an effective approach and increased palliative medicine consultation significantly.

Despite the known benefits of an early palliative medicine consultation (2), it remains underused (6). Prompting the consultation based on known trigger criteria at the beginning of the day may be an efficient way to involve the palliative medicine team in the ICU. This efficiency is especially important in the setting of a national shortage of palliative medicine provider and an aging population with increasing amounts of medical comorbidities (13).

In our study, case managers identified patients with early palliative medicine consultation trigger as they are a part of the morning huddle and screen ICU patients for other needs. However, identifying patients who may benefit from an early palliative medicine consult can be done by any caregiver and can be done during rounds as well (14). This is especially important in hospitals that may be understaffed or do not have a formal huddle. A future direction can be using a clinical decision support system in the electronic medical records to identify these patients for the provider (15). Additionally, this process should be monitored as hospitals may have different patient populations with different needs to ensure the best use of available palliative medicine resources.

We used four triggers to identify patients who may benefit from an early palliative medicine consultation; however, most of the palliative medicine consults occurred on patients who did not have these pre-specified triggers. These triggers were based on prior

**TABLE 1.**  
**Patient Characteristics**

Characteristics	All Patients, <i>n</i> (%)	PM Consult Within 48 hr, <i>n</i> (%)	PM Consult After 48 hr, <i>n</i> (%)	No PM Consult, <i>n</i> (%)	<i>p</i> for Early vs no PM Consult	<i>p</i> for Late vs No PM Consult	<i>p</i> for Any vs No PM Consult
Number of patients	83 (100)	23 (100)	21 (100)	39 (100)			
Age at diagnosis							
Median (range)	71 (28–88)	69 (40–87)	71 (40–85)	71 (28–88)	0.97	0.88	0.90
> 65, <i>n</i> (%)	55 (66.3)	14 (60.9)	15 (71.4)	26 (66.7)	0.64	0.71	0.94
Male gender, <i>n</i> (%)	53 (63.9)	14 (60.9)	12 (57.1)	27 (69.2)	0.50	0.35	0.34
White race, <i>n</i> (%)	75 (90.4)	21 (91.3)	20 (95.2)	34 (87.2)	0.62	0.32	0.36
Charlson Comorbidity Score, median (range)	6 (1–13)	8 (4–13)	5 (2–11)	6 (1–12)	0.0002	0.31	0.004
Comorbidities at MICU admission, <i>n</i> (%)							
Stage IV cancer	17 (20.5)	11 (47.8)	4 (19.0)	2 (5.1)	0.0001	0.09	0.001
Septic shock with mechanical ventilation	10 (12.0)	4 (17.4)	6 (28.6)	0 (0)	0.007	0.0004	0.002
Admission from long term acute care hospital	5 (6.0)	0 (0)	1 (4.8)	4 (10.3)	0.11	0.46	0.13
Postcardiac arrest	5 (6.0)	1 (4.3)	3 (14.3)	1 (2.6)	0.70	0.08	0.21
Code status at MICU admission, <i>n</i> (%)							
Not discussed	4 (4.8)	0 (0)	0 (0)	4 (10.3)	0.11	0.13	0.029
Full code	61 (73.5)	16 (69.6)	17 (81.0)	28 (71.8)	0.85	0.44	0.74
CCA	16 (19.3)	6 (26.1)	4 (19.0)	6 (15.4)	0.30	0.72	0.40
CCA/DNI	2 (2.4)	1 (4.3)	0 (0)	1 (2.6)	0.70	0.46	0.93
CC	0 (0)	0 (0)	0 (0)	0 (0)			
Code status at MICU discharge, <i>n</i> (%)							
Not discussed	4 (4.8)	0 (0)	0 (0)	4 (10.3)	0.11	0.13	0.029
Full code	40 (48.2)	7 (30.4)	5 (23.8)	28 (71.8)	0.002	0.0004	0.0001
CCA	18 (21.7)	5 (21.7)	8 (38.1)	5 (12.8)	0.36	0.023	0.07
CCA/DNI	1 (1.2)	0 (0)	1 (4.8)	0 (0)		0.17	0.34
CC	20 (24.1)	11 (47.8)	7 (33.3)	2 (5.1)	0.0001	0.004	0.0001
Change of code status while in MICU, <i>n</i> (%)							
No change	49 (59.0)	9 (39.1)	6 (28.6)	34 (87.2)	0.0001	< 0.0001	< 0.0001
Changed to less aggressive code	31 (37.3)	13 (56.5)	15 (71.4)	3 (7.7)	< 0.0001	< 0.0001	< 0.0001
Changed to more aggressive code	3 (3.6)	1 (4.3)	0 (0)	2 (5.1)	0.89	0.29	0.49
Outcomes during MICU hospitalization							
Length of stay, median (range)	5 (1–27)	5 (1–27)	11 (1–45)	3 (1–25)	0.19	0.0001	0.003
Tracheostomy	7 (8.4)	0 (0)	4 (19.0)	3 (7.7)	0.17	0.19	0.82
Percutaneous gastrostomy tube placement	7 (8.4)	0 (0)	4 (19.0)	3 (7.7)	0.17	0.19	0.82
Hospice before ICU discharge/death	17 (20.5)	10 (43.5)	6 (28.6)	1 (2.6)	< 0.0001	0.003	0.0001

CC = comfort care, CCA = comfort care at arrest, DNI = do not intubate, MICU = medical ICU, PM = palliative medicine.

**TABLE 2.**  
**Reasons of Not Consulting Palliative Medicine**

Reasons, <i>n</i> (%)	No Palliative Medicine Consult ( <i>N</i> = 39)
Clinical decision	24 (61.5)
Hospitalization for < 48 hr	8 (20.5)
Family preference	5 (12.8)
Patient refused	1 (2.6)
Withdrew care within 48 hr	1 (2.6)

internal quality work and certainly can be modified based on the patient population at different institutes.

This study also showed that palliative medicine consultation in high-risk patients remains underused as a significant number of the patients did not receive a consultation despite being appropriately screened during the morning huddle. The most common reason for not obtaining a palliative medicine consult was physician's clinical decision, followed by family's decision. Physicians and families should be appropriately educated regarding the role of palliative medicine in critically ill patients to avoid aggressive and burdensome measures at the end of

life. Consider also tastefully acknowledging the medical cost savings that occurs with palliative medicine intervention and the inherent reduction in length of stay both in the ICU and hospital generally.

This was a pilot study and it had limitations. First, it enrolled a smaller number of patients than initially intended, due to the COVID-19 pandemic and significant change in workflow including cancelling the multidisciplinary morning huddle. Second, we did not report on long-term outcomes that may result from this quality improvement project. Third, case management could have missed patients with their schedules, which may introduce selection bias. However, we communicated with the healthcare providers in the ICU to capture the cases that triggered a consult. Fourth, the most common reason for not obtaining an early palliative medicine consult in our cohort was a clinical decision by the treating team. This may reflect an insight from the primary treating team and certainly makes conclusions on the intervention challenging. Future trials should make effort to decipher the reasoning behind such decisions. Finally, although the early palliative care consult was triggered in the morning huddle, we did not standardize the process of delivering palliative care to these patients nor did we capture the main different interventions provided by that team.

**TABLE 3.**  
**Patient Outcomes**

Characteristics	Met Criteria + PM, <i>n</i> (%)	Met Criteria + No PM, <i>n</i> (%)	No Criteria + PM, <i>n</i> (%)	No Criteria + No PM, <i>n</i> (%)
Number of patients	34 (100)	12 (100)	10 (100)	27 (100)
Palliative medicine consult				
Within 48 hr	19 (55.9)	0 (0)	4 (40)	0 (0)
After 48 hr	15 (44.1)	0 (0)	6 (60)	0 (0)
None	0 (0)	12 (100)	0 (0)	27 (100)
Change of code status while in medical ICU				
No change	11 (32.4)	8 (66.7)	4 (40)	26 (96.3)
Changed to less aggressive code	22 (64.7)	2 (16.7)	6 (60)	1 (3.7)
Changed to more aggressive code	1 (2.9)	2 (16.7)	0 (0)	0 (0)
Outcomes during MICU hospitalization				
Length of stay, median (range)	8 (0–45)	5 (1–18)	5 (1–45)	3 (0–25)
Tracheostomy	3 (8.8)	5 (41.7)	1 (10)	0 (0)
Percutaneous gastrostomy tube placement	3 (8.8)	4 (33.3)	1 (10)	0 (0)
Hospice before ICU discharge/death	15 (44.1)	1 (8.3)	1 (10)	0 (0)

## CONCLUSIONS

Including a prompt to early palliative medicine consultation in the daily ICU morning huddle is feasible, can produce a palliative medicine consultation, and results in a significant change in code status toward less aggressive measures. This study identified challenges within the ICU with modifiable behaviors that should direct our future quality efforts.

1 Department of Internal Medicine, Fairview hospital, Cleveland Clinic Foundation, Cleveland OH.

2 Department of Palliative and Supportive Care Cleveland Clinic Foundation, Cleveland, OH.

3 Respiratory Institute, Cleveland Clinic Foundation, Cleveland, OH.

The authors have disclosed that they do not have any potential conflicts of interest.

For information regarding this article, E-mail: [aljaghm@ccf.org](mailto:aljaghm@ccf.org)

## REFERENCES

1. Ma J, Chi S, Buettner B, et al: Early palliative care consultation in the medical ICU: A cluster randomized crossover trial. *Crit Care Med* 2019; 47:1707–1715
2. Helgeson S, Burnside R, Robinson M, et al: Early vs usual palliative care consultation in the ICU: Augmenting the critical care physician to decrease in-hospital mortality. *CHEST* 2019; 156:A843
3. Norton SA, Hogan LA, Holloway RG, et al: Proactive palliative care in the medical intensive care unit: Effects on length of stay for selected high-risk patients. *Crit Care Med* 2007; 35:1530–1535
4. Nelson JE, Bassett R, Boss RD, et al: Improve Palliative Care in the Intensive Care Unit Project: Models for structuring a clinical initiative to enhance palliative care in the intensive care unit: A report from the IPAL-ICU Project (Improving Palliative Care in the ICU). *Crit Care Med* 2010; 38:1765–1772
5. Seaman JB, Barnato AE, Sereika SM, et al: Patterns of palliative care service consultation in a sample of critically ill ICU patients at high risk of dying. *Heart Lung* 2017; 46:18–23
6. Mercadante S, Gregoretti C, Cortegiani A: Palliative care in intensive care units: why, where, what, who, when, how. *BMC Anesthesiol* 2018; 18:106
7. Institute for Healthcare Improvement. 2011. Available at: <http://www.ihl.org/Pages/default.aspx>. Accessed April 17, 2020
8. Anderson J, Koenig L, Tovornik M, et al: Impact of a daily mobility huddle on patient activity level in the ICU. *Crit Care Med* 2014; 42:A1570.
9. Brighton LJ, Bristowe K: Communication in palliative care: Talking about the end of life, before the end of life. *Postgrad Med J* 2016; 92:466–470
10. Morrison RS, Penrod JD, Cassel JB, et al; Palliative Care Leadership Centers' Outcomes Group: Cost savings associated with US hospital palliative care consultation programs. *Arch Intern Med* 2008; 168:1783–1790
11. Wang L, Piet L, Kenworthy CM, et al: Association between palliative case management and utilization of inpatient, intensive care unit, emergency department, and hospice in Medicaid beneficiaries. *Am J Hosp Palliat Care* 2015; 32:216–220
12. Villarreal D, Restrepo MI, Healy J, et al: A model for increasing palliative care in the intensive care unit: Enhancing inter-professional consultation rates and communication. *J Pain Symptom Manage* 2011; 42:676–679
13. Ford DW: Palliative care consultation needs in United States intensive care units: Another workforce shortage? *Am J Resp Crit Care Med*. 2018; 189:383–384
14. Weissman DE, Meier DE: Identifying patients in need of a palliative care assessment in the hospital setting: A consensus report from the center to advance palliative care. *J Palliat Med* 2011; 14:17–23
15. Bright TJ, Wong A, Dhurjati R, et al: Effect of clinical decision-support systems: A systematic review. *Ann Intern Med* 2012; 157:29–43