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The differences in code status conversation approaches reported by emergency medicine and palliative care clinicians: a mixed method study

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Abstract

Background: During acute health deterioration, emergency medicine and palliative care clinicians routinely discuss code status (e.g., shared decision-making about mechanical ventilation) with seriously ill patients. Little is known about their approaches. We sought to elucidate how code status conversations are conducted by emergency medicine and palliative care clinicians and why their approaches are different.

Methods: We conducted a sequential-explanatory, mixed-method study in three large academic medical centers in the Northeastern United States. Attending physicians and advanced practice providers working in emergency medicine and palliative care were eligible. Among the survey respondents, we purposefully sampled the participants for follow-up interviews. We collected clinicians' self-reported approaches in code status conversations and their rationales. A survey with a 5-point Likert scale ("very unlikely" to "very likely") was used to assess the likelihood of asking about medical procedures (procedure-based) and patients' values (value-based) during code status conversations, followed by semi-structured interviews.

Results: Among 272 clinicians approached, 206 completed the survey (a 76% response rate). The reported approaches differed greatly (e.g., 91% of palliative care clinicians reported asking about a patient's acceptable quality of life compared to 59% of emergency medicine clinicians). Of the 206 respondents, 118 (57%) agreed to subsequent interviews; our final number of semi-structured interviews included seven emergency medicine clinicians and nine palliative care clinicians. The palliative care clinicians stated that the value-based questions offer insight into patients' goals, which is necessary for formulating a recommendation. In contrast, emergency medicine clinicians stated that while value-based questions are useful, they are vague and necessitate extended discussions, which are inappropriate during emergencies.

Conclusions: Emergency medicine and palliative care clinicians reported conducting code status conversations differently. The rationales may be shaped by their clinical practices and experiences.

INTRODUCTION

Patients with serious, life-limiting illnesses (prognosis of less than one year) often face acute clinical deteriorations that require immediate decision makings for resuscitation (e.g., mechanical ventilation). Early conversations about seriously ill patients' values and preferences towards end-of-life care (i.e., serious illness conversations) can lead to well-informed shared decision-making centered on patients' values and improved quality of life. Serious illness conversations are associated with lower rates of in-hospital death, less aggressive medical care at the end of life, earlier hospice referrals, increased peacefulness, and a 56% greater likelihood of having end-of-life wishes known and followed. He to only 37% of seriously ill patients have these conversations with their physicians — only 33 days before death on average. Experts agree that serious illness care should highlight patient

preparation and in-the-moment decision-making during clinical deteriorations. ^{10–12} A code status conversation is an example of shared decision-making between clinicians and patients or surrogates regarding resuscitation. The goal of the conversation is to ensure that the patient's wishes are respected and reflected in their care. ¹³ When code status conversations are urgently needed due to clinical deteriorations for seriously ill patients, they exemplify the most challenging, in-the-moment decision-making. In these moments, best practices exist to ensure care is aligned with patients' wishes. ^{14–17} However, the details of practicing clinicians' communication with patients, as well as the rationale for this communication, are unknown. Therefore, we sought to determine the contents eomponents discussed in code status conversations and clinicians' perceived values for each component.

To elucidate the current clinical practices, we chose two distinct groups of clinicians who routinely conduct code status conversations. In the U.S., emergency medicine clinicians perform >24,000 cardiopulmonary resuscitations ¹⁸, >300,000 intubations ¹⁹ annually, and routinely conduct code status conversations. Yet only 59% of emergency medicine residency training programs teach serious illness communication or any palliative care skills. ²⁰ On the other hand, palliative care clinicians are experts in code status conversations with specific training in serious illness communications. Palliative care clinicians conduct code status conversations regularly with seriously ill patients, usually in a consultative role. Some data exists to suggest that the outcomes of code status decisions may differ between emergency medicine and palliative care clinicians during acute health decompensations. ²¹ Given these clinician groups' clinical experiences and training, we sought to use mixed methods to determine the differences in self-reported approaches and their reasons for these practices.

METHODS

Study Design and Settings

We conducted a sequential-explanatory, mixed-method study. To determine the elements of code status conversations practiced by emergency medicine and palliative care clinicians, we conducted a cross-sectional survey. To further examine the rationales for the reported practice components, we conducted semi-structured interviews of purposefully selected survey respondents. The study was conducted in three large urban academic hospitals in the Northeast region of the U.S. from December 2021 to August 2022. One academic hospital has 1,060 beds and 100,000 annual visits to the emergency department. The other two incorporated academic hospitals have a combined total of 1,200 beds and 95,000 annual visits to the emergency department.

Participants

All full-time attending physicians, physician assistants, and nurse practitioners working in emergency medicine and palliative care were approached via email distribution lists. We used research electronic data capture to obtain consent and administer the de-identified surveys.²² The respondents voluntarily participated and received \$15 remuneration. Among the respondents, we purposefully sampled clinicians with a wide range of clinical experiences and survey responses (e.g., representatives and extreme ends of the response variations) to participate in the follow-up interviews. By purposefully sampling respondents,

we sought to understand the rationales from diversity of responses: We recruited respondents who answered, "very unlikely" to ask a value-based question, and corresponding respondent who answered, "very likely" on the same question on our survey. The interviews took place via video-conferencing and were recorded and professionally transcribed (the participants received an additional \$15 remuneration). The study was determined to meet the criteria for exemption 45 CFR46.101 for human subject research by our institutional review board (2021P002243).

Survey Instrument

Given that no validated survey existed to measure the approaches of code status conversations, the study team drafted the survey after reviewing the literature and leveraging our expertise in emergency medicine, palliative care, and geriatrics. The survey began with a typical case describing a seriously ill older adult requiring a code status conversation followed by the survey questions focused on the likelihood of completing distinct components of the code status conversations in a 5-point Likert scale (very unlikely (1), somewhat unlikely (2), neutral (3), somewhat likely (4), and very likely (5)). The components were chosen based on expert inputs. 13,17 The instrument was tested and iteratively refined for its readability and clarity with five physicians who did not participate in the study. Based on feedbacks, we shortened the survey and categorized the items into two categories: procedure-based questions (eight items, e.g., "Would your father want to be on the breathing machine?") and value-based questions (10 items, e.g., "What is important to your father if the time were to be short?"). The final instrument included 18 items followed by demographic questions (Supplemental file 1).

Semi-Structured interviews

The research team designed and iteratively refined the interview guide with clinical (KO/SWL/MK, emergency physicians and JRL/MH, palliative care physicians) and qualitative research experts (ACR, a female, PhD medical anthropologist and ANC, a female, MD/PhD medical anthropologist). The interview guide began by asking the participants to describe the last code status conversation they had. Then, we focused on asking about their reasons for their answers on the survey (e.g., "Help me understand why you chose X"). Open-ended questions followed by cognitive probes were used. Interviews were conducted by three research assistants with bachelor's degrees, trained in qualitative interviewing techniques. The interview guide was updated after the first five interviews for brevity. From January to August 2022, the interviews were conducted by trained research assistants (JK and BL) who underwent one-hour didactics on basics of qualitative research and four-hour hands-on coding and analysis training by ACR. Participants had no prior contact with interviewers. The recordings were professionally transcribed and were not returned to participants for comment.

Outcomes

Our primary outcome was the self-reported approaches of code status conversations obtained from the survey. Our secondary outcomes were rationales behind self-reported survey responses through qualitative analysis.

Data Analysis

We used descriptive statistics to characterize participants' demographics. We compared the categorical responses of emergency medicine and palliative care clinicians using the chi-square or Fisher's exact test. We collapsed the positive/yes ("very likely" and "somewhat likely") and negative/no responses ("neutral," "somewhat unlikely," and "very unlikely") for ease of presentation. Statistical significance was defined as a p-value <0.05. Multivariable logistic regression analysis controlled for prespecified confounders determined by our expertise: occupational role, years of clinical practice, and frequency of code status conversations. We used standard methods to check if assumptions for logistic regression model were met in our final models. We reported the adjusted odds ratio (OR) and 95% confidence interval (CI). Statistical analyses were performed using Stata 16.0 (Stata Corp LLC, College Station, TX, U.S.A.).

For qualitative analysis, three research assistants conducted framework analysis ²³ using NVivo 1.6 software (QSR International Pty Ltd). Framework analysis prespecifies deductively derived codes from the interview guide while also allows for the flexibility to include emergent codes from inductive open-coding approach. In the initial coding phase, a subset of the transcripts (29%) was dually coded to ensure consistency (goal inter-rater reliability kappa 0.80). The team members met weekly to discuss coding methods and discrepancies until consensus was achieved. Two research assistants coded seven initial interviews each, then meaning saturation was assessed.²⁴ Two additional interviews were conducted to reach saturation. Analysis focused on identifying key dynamics within and across participant types to understand clinician reasons for asking procedure-based versus value-based questions. Each process was discussed with the study team. The results were reported in adherence to the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines.²⁵

RESULTS

Among 222 emergency medicine and 50 palliative care clinicians eligible, 206 completed the survey (overall response rate of 76%); 108 (52%) were attending physicians; 66 (32%) had been in practice 6–10 years (Table 1). We interviewed seven emergency medicine clinicians and nine palliative care clinicians until thematic saturation was reached.

Crude results

Procedure-based questions (Figure 1): The vast majority (92%, 149 of 161) of emergency medicine participants reported asking "Would your father want to be on a breathing machine?" compared to 26% (12 of 45) of palliative care participants (p<0.001). While 54% of emergency medicine participants reported asking "Would your father want everything done?", only 2% of palliative care participants reported doing so (p<0.001). Most emergency medicine participants (142 of 161, 88%) reported asking "Would your father want us to restart his heart if it stops?" compared to 20% (9 of 45) of palliative care participants (p<0.01).

Value-based questions (Figure 2): More palliative care participants reported asking "What would your father say would be most important to him if time were to be short?" compared to emergency medicine participants (91% vs. 31%, p<0.001). More palliative care participants reported exploring "minimal quality of life" compared emergency medicine participants (91% vs. 41%, p<0.001). Most palliative care participants (73%) reported asking "How much more would your father say he would be willing to go through for possibility of more time?" compared to 27% of emergency medicine participants (p<0.001). Furthermore, 93% of palliative care participants reported making a recommendation about the code status, compared to only 24% of emergency medicine participants (p<0.001).

Adjusted Results (Table 2)—The adjusted results demonstrated the same trend compared to the crude results.

Procedure-based questions (reference = palliative care participants): After adjusting for the occupational role, clinical experience, and frequency of conversations, emergency medicine participants had higher odds of asking "Would your father want to be on a breathing machine?" (adjusted OR = 47.4, p<0.001) and "Would your father want everything done?" (adjusted OR = 45.4, p<0.001) compared to palliative care participants.

Value-based questions (reference = emergency medicine participants): After adjusting for occupational role, clinical experience, and frequency of conversations, palliative care participants had higher odds of reporting to provide recommendations (adjusted OR = 37.5, p<0.001) and reporting to ask "what would your father say would be most important to him if time were to be short?" (adjusted OR = 16.4, p<0.001) compared to emergency medicine participants. The sensitivity analysis including the institution as constant covariate also demonstrated the same trend and magnitudes.

Qualitative Interviews: Rationales for Asking (Supplemental file 2.)—We conducted 16 interviews (median duration = 39.5 minutes).

Rationales for asking procedure-based questions

Both clinician groups highlighted the importance of describing how the procedural outcomes might affect the patient's values. ("... we have an obligation to give them a realistic idea... Your family member is probably not going to survive, and you're going to put them through a lot more distress ..."EM 003; "... Would you want us to do these things if he might survive hours to maybe a few days connected to machines in the ICU?..."PC 086).

Emergency medicine clinicians highlighted one main rationale for asking the procedure-based questions. The clinical urgency requires omitting value-based questions ("I've got to make a decision quickly ..." EM 002). On the other hand, palliative care clinicians highlighted three reasons to avoid asking procedure-based questions. First, the questions do not determine patients' values and preferences, which are necessary for making a recommendation ("Instead of asking the family to be the expert on what's most important to the patient, these questions are asking the family to be the expert on what's indicated medically..." PC 017). Second, the questions may convey misleading information regarding the success of those interventions ("Why ask a dying person whether they want something

that's not going to help them?"PC 010). Third, the questions do not need to be asked explicitly because their answers can be extrapolated from the patient's values and preferences ("...it can be confusing to patients and their families..."PC 026). One reason to avoid asking about the procedure-based questions shared by both clinician groups was because asking procedure-based questions assumes that the surrogate has pre-existing medical knowledge ("Asking all those questions causes harm... because you're asking someone in a high-intensity, emotional situation to make decision about stuff that they don't have the training in."PC 010; "... it's not fair to put that responsibility on them when they don't have nearly the right information." EM 004).

Rationales for asking value-based questions

Both clinician groups agreed that they would ask about the surrogates' understanding of illness. ("...I'm trying to figure out, are they still in denial or have they accepted? Or are they somewhere in between?" EM 003; "People make decisions differently when they have different understandings of illness..." PC 114). Moreover, both clinician groups mentioned that asking value-based questions in particularly dire scenarios can be misleading regarding the possible clinical outcomes ("... he's sick enough that he's unlikely to get off a ventilator." EM 024; "... in an ER with a guy on BiPAP with advanced cancer and an oncologist recommending hospice...I actually think it can be agonizing to talk about what their goals are..." PC 010).

Emergency medicine clinicians highlighted that the reason for avoiding asking value-based questions is because they can be vague or require extended discussions that are not conducive to quick decision-making during an emergency ("... in the interest of time, sometimes we have to make a shortcut and just cut to the chase: 'Does he want to be intubated?" EM 002). On the other hand, some palliative care clinicians also expressed the concern that urgent clinical scenarios require clinicians to prioritize certain value-based questions over others ("If they're in an emergency situation, they're not able to tell me their goals. So, I almost shortcut the board and say, 'Is your goal this? and what's more important?" PC 114). Furthermore, palliative care clinicians highlighted two reasons for asking the value-based questions. First, the question offers insight into the patient's goals, which is necessary for formulating a patient-centered recommendation ("The more I understand about the patient and the family's wishes, illness, and goals, the more I can actually make a recommendation..."PC 036). Second, the question allows for an understanding of the patient's baseline function, which can be predictive of clinical outcomes, and allows clinicians to make a medically-informed recommendation ("Asking about the baseline function... it indicates what's going to happen if this person is put on a ventilator... Exploring the patient's life priorities is one of the most important things to match what we're doing to what is important to him." PC 024).

Rationales for providing a clinical recommendation

Both clinicians reported that providing clinical recommendations for code status is a physician's responsibility and takes the burden off the surrogate ("...it's unfair to drop this decision on the patient or family. They didn't go to medical school, do a residency, and show up to work in an ER every day for the last ten years to learn about this. It's unfair to expect

them, in their time of huge family stress, to now make this huge decision about something that they know nothing about ... "EM 003; "This is what physicians are expected to do: provide medical expertise... "PC 114). Emergency medicine clinicians also reported that providing clinical recommendations is only necessary when explicitly requested or when the patient's wishes are not clear ("... when people have clearly outlined goals that are well documented ... and I'm going to honor that. ... if there is no clear documentation and things haven't been discussed, or if I'm going to have to make this decision now, then I'll offer my recommendation..."EM 003; "... The only time I will say something is if they ask me specifically for my recommendation..."EM 175).

DISCUSSION

In our mixed-method study, significant differences in clinically reported code status conversation patterns were reported between large academic practices of emergency medicine and palliative care. We found that emergency medicine clinicians were more likely to ask procedure-based rather than value-based questions during code status conversations. Comparatively, palliative care clinicians were more likely to ask value-based questions and give more recommendations than emergency medicine clinicians. Our findings are consistent with prior studies demonstrating that the fast-paced code status conversations are brief, often perceive resuscitation procedures as their primary responsibilities, are focused on life-sustaining rather than larger life goals, and provide little information about the outcomes of procedures and clinical recommendations. ^{26–29}

Both clinician groups appreciated the importance of patient values in code status decision-making. What is responsible for the difference in how palliative care clinicians practice code status conversations? Their clinical experiences are likely responsible for the substantially different approaches. Palliative care clinicians are not faced with the same clinical urgency (e.g., they may not conduct this conversation while having to concurrently manage hypoxia and hypotension) to make quick decisions compared to emergency medicine clinicians. The nature of these code status conversations may be influenced by the perceived urgency of the situation, with emergency medicine clinicians being more acuity oriented. The prognostication experiences of both clinician groups are different. Palliative care clinicians generally have serious illness conversations in interdisciplinary team meetings, where they have a bird's eye view and can anticipate the patient's trajectory.²⁸

Furthermore, palliative care clinicians reported leading code status conversations more frequently than emergency medicine clinicians. Unlike other clinicians in medicine, palliative care clinicians receive systematic training in serious illness communication. Clinicians who have undergone various types of serious illness communication training have demonstrated higher acumen at meeting the informational and emotional needs of patients and family members. ^{28,30} These conversations are associated with higher levels of patient-rated trust, perceived empathy, and communication quality. ^{1,9,31–33} The conversations conducted by trained clinicians also result in a higher likelihood of goal-concordant care ^{3,31,34} and a lower likelihood of aggressive care (e.g., intensive care in the last 30 days of life). ^{1,9} Palliative care training emphasizes communication as well as a focus on "whole person care" whereas emergency medicine training emphasizes rapid decision-making and

life-threatening diagnoses and interventions. These differences in training and clinical experiences may lead emergency medicine clinicians to perceive the objective of code status conversations as determining "what the patient wants" with a menu of procedure options available, while palliative care clinicians perceive the objective to provide recommendations aligned with patient's goals and values.

Further integration of serious illness communication training and principles of patient-centered care into emergency medicine training and practice has the potential to enhance acute decision-making in these emergency scenarios. Using various approaches, such efforts are ongoing in emergency medicine.^{35,36} The effects of palliative care integration in emergency medicine practice remain to be seen.

This study has several limitations. Because some clinicians declined to participate, response bias may exist. Clinicians who declined to participate may have different opinions from our participants. However, our 76% response rate for the study likely captured the perspectives of most of the study population. Although we only recruited participants at large academic institutions in the Northeast region of the U.S., our study sites were a few of the largest practice settings in the U.S., allowing us to capture a wide range of reported practice patterns. These results may not represent the reported approaches to community practices. We did not collect the age or gender of the respondents, which may have influenced their responses in an unknown direction. Given that no validated survey existed on this topic, we created the survey instrument using our expertise in this area, which underwent extensive refinement before use, to validate the content validity. Yet, the internal reliability and construct validity were not established for our instrument. The content validation of the survey instrument has not been established. As noted above, the context of practice for palliative care and emergency medicine clinicians may differs in the level of urgency of these discussions, which may influence the responses of clinicians. Our study was conducted during a COVID surge, which could have had any impact on the manner or frequency of code status conversations. In our regression analyses, we could not adjust for the effects of confounding for two patient's value-based questions ("Establish the daughter's understanding of illness" and "Ask about the baseline function of the patient") because low frequencies of events were recorded for the stability of the regression modeling (i.e., not enough number of "no" responses was observed among respondents using the rule of 10.³⁷). We observed similar magnitudes and directions of the associations in all other survey questions, which allowed us to gain confidence in our overall findings. Despite these limitations, the mixed-method design was beneficial in understanding the rationales of the respondents' survey results. We are confident that we have captured a meaningful finding in these large academic practices in the U.S.

CONCLUSIONS

In this mixed method study, emergency medicine and palliative care clinicians reported conducting code status conversations significantly differently. The rationales for these differences may be shaped by their clinical practices and experiences. The patient-centered outcomes of code status conversations remain unknown.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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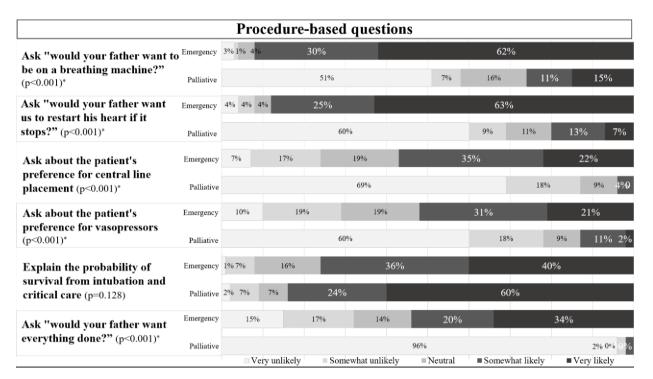


Figure 1.The procedure-based components of code status conversations among emergency medicine and palliative care clinicians

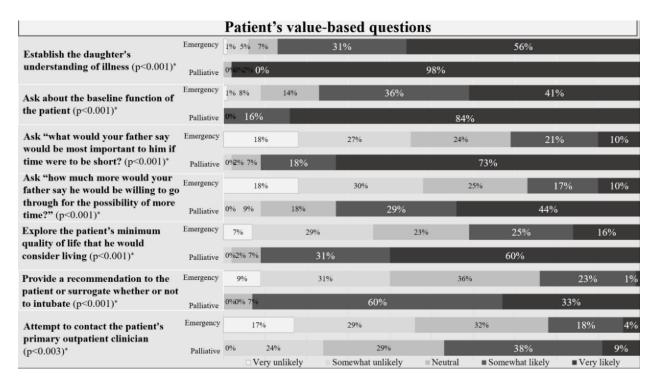


Figure 2.The patient's value-based components of code status conversations among emergency clinicians and palliative cares clinicians.

Table 1.

Characteristics of survey participants.

Participant characteristics	Total N=206 (%)	Emergency medicine n=161 (%)	Palliative care n=45(%)	p-value		
Occupational role*						
Attending physician	108 (52.4)	82 (50.9)	26 (57.8)			
Nurse practitioner	24 (11.7)	10 (6.2)	14 (31.1)			
Physician assistant	74 (35.9)	69 (42.9)	5 (11.1)			
Year in practicing clinical medicine				0.301		
0–5 years	57 (27.7)	49 (30.4)	8 (17.8)			
6–10 years	66 (32.0)	49 (30.4)	17 (37.8)			
11–15 years	24 (11.7)	19 (11.8)	5 (11.1)			
16–20 years	28 (13.6)	23 (14.3)	5 (11.1)			
21 years	31 (15.0)	21 (13.1)	10 (22.2)			
Frequency of code status determination within the past year *						
1 to 6 times (< once per 2 months)	58 (28.1)	53 (32.9)	5 (11.1)			
7 to 12 times (< 1 time per month)	51 (24.8)	45 (28.0)	6 (13.3)			
13 to 24 times (2 times per month)	44 (21.4)	37 (23.0)	7 (15.6)			
25 or more times (>2 times per month)	53 (25.7)	26 (16.1)	27 (60.0)			
Previous training in palliative care or communication skills for end- of-life care	108 (N/A)	108 (67.1)	N/A	N/A		
Institutions						
Institution 1	105 (51.0)	84 (52.2)	21 (46.7)			
Institution 2	101 (49.0)	77 (47.8)	24 (53.3)			

^{*} p-value < 0.05

Table 2.

The adjusted odds ratio in code status conversation practice patterns between emergency clinicians and palliative care clinicians (adjusted for the occupational role, years of clinical experience, and frequency of code status conversations)

Survey Questions	Crude Odds Ratio (95% CI)	p-value	Adjusted for the occupational role, clinical experience, and frequency of code status conversation		Adjusted for the occupational role, clinical experience, and frequency of code status conversation and institution				
			Adjusted Odds Ratio (95% CI)	p-value	Adjusted Odds Ratio (95% CI)	p-value			
Odds of asking procedure-based questions by emergency clinicians (reference = palliative care clinicians)									
Ask "would your father want to be on a breathing machine?"	34.1 (14.1– 82.7)	< 0.001	47.4 (15.3–147.6)	< 0.001	50.9 (15.9–162.4)	<0.001			
Ask "would your father want everything done?"	50.5 (6.8– 375.1)	< 0.001	45.4 (5.9–346.9)	<0.001	45.2 (5.9–345.4)	<0.001			
Ask "would your father want us to restart his heart if it stops?"	29.9 (12.5– 71.6)	< 0.001	29.8 (10.6 –84.2)	< 0.001	31.1 (10.9–88.9)	< 0.001			
Ask about the patient's preference for central line placement.	28.7 (6.7– 122.4)	< 0.001	22.6 (5.2 – 99.5)	<0.001	22.8 (5.2 – 100.1)	< 0.001			
Ask about the patient's preference for vasopressors.	6.9 (2.8–17.2)	< 0.001	5.8 (2.2–15.4)	< 0.001	5.9 (2.2 – 15.5)	< 0.001			
Explain the probability of survival from intubation and critical care.	0.6 (0.2–1.4)	0.221	0.8 (0.3–2.2)	0.678	0.8 (0.3 – 2.2)	0.702			
Odds of asking procedure-based ques	stions by palliative	care clinici	ans (reference = emerg	ency medicine c	linicians)	-			
Provide a recommendation to the patient or surrogate whether or not tointubate.	43.8 (12.9– 149.2)	<0.001	37.5 (10.0–140.9)	<0.001	37.3 (9.9–139.9)	<0.001			
Ask "what would your father say would be most important to him if timewere to be short?"	22.8 (7.7– 67.0)	<0.001	16.4 (5.3–50.6)	<0.001	20.3 (6.2–66.4)	<0.001			
Explore patient's minimum quality of life that he would consider living.	14.4 (4.9– 42.1)	<0.001	11.5 (3.8–35.2)	<0.001	11.7 (3.8–36.0)	<0.001			
Ask "how much more would your father say he would be willing to gothrough for possibility of more time?"	7.5 (3.6–15.9)	<0.001	5.7 (2.5–13.3)	<0.001	6.1 (2.6–14.3)	<0.001			
Ask "what could your father do on his good days in the past one month?"	6.3 (3.0–13.2)	<0.001	4.9 (2.2–10.9)	<0.001	5.0 (2.2–11.1)	<0.001			
Attempt to contact the patient's primary outpatient clinician	3.0 (1.5–6.1)	0.002	2.4 (1.1–5.2)	0.026	2.4 (1.1–5.2)	0.027			
Ask "what is your understanding of your father's illness?"	3.2 (0.7–14.3)	0.124	2.8 (0.6–13.5)	0.208	2.8 (0.6–13.9)	0.206			