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Conflict Management Strategies in the ICU Differ Between Palliative Care Specialists and Intensivists

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Abstract

OBJECTIVE—Conflict is common between physicians and surrogate decision makers around end-of-life care in intensive care units (ICU). Involving experts in conflict management improve outcomes, but little is known about what differences in conflict management styles may explain the benefit. We used simulation to examine potential differences in how palliative care specialists manage conflict with surrogates about end-of-life treatment decisions in ICUs compared with intensivists.

DESIGN—Subjects participated in a high-fidelity simulation of conflict with a surrogate in an ICU. In this simulation, a medical actor portrayed a surrogate decision maker during an ICU family meeting who refuses to follow an advance directive that clearly declines advanced life-sustaining therapies. We audio-recorded the simulation encounters and applied a coding framework to quantify conflict management behaviors, which was organized into two categories: task-focused communication and relationship-building. We used negative binomial modeling to

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determine whether there were differences between palliative care specialists' and intensivists' use of task-focused communication and relationship building.

SETTING—Single academic medical center ICU

PARTICIPANTS—Palliative care specialists and intensivists

INTERVENTIONS—none

MEASUREMENTS and MAIN RESULTS—We enrolled 11 palliative care specialists and 25 intensivists. The palliative care specialists were all attending physicians. The intensivist group consisted of 11 attending physicians, 9 pulmonary and critical care fellows, and 5 internal medicine residents rotating in the intensive care unit. We excluded the 5 residents from the primary analysis in order to reduce confounding due to training level. Physicians' mean age was 37 years with a mean of 8 years in practice. Palliative care specialists used 55% fewer task-focused communication statements (Incidence Rate Ratio 0.55, 95% CI 0.36–0.83, p= 0.005) and 48% more relationship building statements (Incidence Rate Ratio 1.48, 95% CI 0.89–2.46, p=0.13) compared with intensivists.

CONCLUSIONS—We found that palliative care specialists engage in less task-focused communication when managing conflict with surrogates compared to intensivists. These differences may help explain the benefit of palliative care involvement in conflict and could be the focus of interventions to improve clinicians' conflict resolution skills.

Keywords

Communication; Critical care; Conflict; End of life care; Simulation

INTRODUCTION

Conflict between physicians and surrogate decision makers is common in intensive care units (ICUs).[1–3] One study reported that 48% of family members perceive conflict with ICU staff over decisions to limit life sustaining treatment.[4] When conflict is handled poorly, it results in negative psychological outcomes for surrogates[5,6] and contributes to low staff morale and burnout.[7,8] When managed well, conflict can be constructive by helping parties better understand the other's perspective, identifying and correcting misperceptions, and fostering collaboration.[9,10] Involving ethics and palliative care consultants to mediate conflict between ICU physicians and surrogate decision makers improves clinical outcomes.[11,12] For example, one systematic review showed that palliative care or ethics consultation improved family's emotional outcomes and reduced ICU length of stay.[12]

An important knowledge gap is in understanding why involvement of palliative care consultants in cases of physician-surrogate conflict in the ICU results in better outcomes. Understanding how these experts handle conflict can inform communication interventions for other clinicians. However, existing methodologies to study how experts manage conflict have important limitations. Self-report of conflict management from physicians is subject to social desirability bias. Audio-recording family conferences is time consuming, logistically challenging, may add emotional burdens on family members and clinicians during already

difficult conversations, and raises ethical issues regarding privacy and confidentiality protection.[13]

Medical simulation offfers a safe and feasible way to study high-stakes communication encounters such as conflict between clinicans and surrogates.[14,15] Simulation creates a controlled lab in which to study variations in behavior. For example, simulation has been used to evaluate trauma team performance[16] and train residents in the ICU.[17] We have previously shown that a conflict simulation is viewed by ICU clinicans as a realistic model of what happens in their day to day practice related to family communication.[18]

We therefore used a validated simulation[18] to identify differences between how palliative care specialists and intensivists manage conflict with surrogate decision makers about end-of-life treatment decisions in ICUs.

MATERIALS and METHODS

Description of Simulated Case

We previously developed a simulated case using evidence based guidelines for simulation in health care[19–22] that we have shown to reliably produce conflict.[18] The case is of a patient with an underlying metastatic malignancy who suffered an acute event resulting in critical illness. The patient had a recent advance directive declining the use of advanced life sustaining therapies. The conflict centered on the refusal of the patient's surrogate decision maker to follow the patient's preferences, instead opting to continue life support with the hope of recovery and return to home. We hired an experienced professional actor to portray the patient's daughter. We trained the actor using rehearsals in which she role-played a variety of responses to physicians' statements and continuous observation and feedback.

Study Participants and Procedures

We recruited a convenience sample of physicians who routinely participate in family meetings in ICUs: critical care and pulmonary/critical care physicians, trainees (critical care and pulmonary/critical care fellows, internal medicine residents), and hospice and palliative medicine physicians. We chose these groups in order to assess the ability of the model to discriminate between the conflict management of palliative care specialists compared with Intensivists. We recruited participants with emailed invitations. All participants completed written informed consent, and were compensated $25. The institutional review board approved study procedures.

Participating physicians completed a pre-simulation questionnaire eliciting demographic information. They then reviewed the patient's medical records and advance directive and conducted an audio-recorded family conference with the simulated surrogate decision maker. Conferences were limited to 30 minutes. Experienced medical transcriptionists transcribed the audio-recorded conferences and interviews verbatim, and de-identified all transcripts for analysis.

Data Analysis

Codebook Development—We developed the codebook using both inductive and deductive approaches. We used two inductive approaches. First, we identified the main general conflict resolution skills from the relevant literature.[23–26] Second, we asked physicians and bioethicists about conflict management skills that were not found in general conflict resolution literature but would be important skills in managing conflict in medical encounters, for example, clarifying surrogate's understanding of the clinical and prognostic information and educating about principles of surrogate decision making. We then deductively identified other conflict management statements that physicians used in the simulated conferences through a qualitative analysis of 5 conferences using the modified grounded theory approach as described by Crabtree and Miller.[27] We then combined all the conflict management themes into a comprehensive codebook through an iterative process using constant comparisons.[28] We reached thematic saturation where all new data could be easily assigned to existing themes. Once thematic saturation was reached, we applied the coding framework to all interview transcripts. Table 2 contains all of the themes included in the codebook.

Coding Procedures and Inter-rater Reliability—Two raters independently coded all transcripts (RAS coded all transcripts; JC served as second coder for 22 transcripts and NCE served as second coder for 14 transcripts). The raters were blinded to whether the physicians were palliative care specialists or intensivists. First, two investigators independently read the entire transcribed encounter to identify the beginning of conflict with the surrogate; next, investigators applied the codes described above to identify conflict management strategies used in the conference. In order to ensure reliability of our coding, any discrepancies were resolved via discussion and adjudication, and only consensus codes were included in the final codebook. We tested coders' inter-rater reliability with a subset of key passages, with kappa=0.93 for RAS and JC, and kappa=0.86 for RAS and NE. We used Atlas.ti for code management (Scientific Software, Berlin).

Organization of themes into a framework—In order to evaluate potential differences between the conflict management statements made by palliative care specialists and intensivists, we organized the coded themes according to a variant of the widely used "three function model" of medical interviewing as described by Lipkin et al.[29] and Coen-Cole.[30] This model includes three interview functions: 1) "gathering data" to understand the problem, 2) "educating and counseling" to provide information, and 3) "relationship building" through rapport and responsiveness to emotions. In this variant, functions 1 and 2 are combined into "task-focused communication". We created one outcome measure for task-focused communication (functions 1 and 2) and one outcome for relationship-building communication (function 3).

The task-focused communication outcome contains the following themes: 1) giving information about prognosis, 2) telling the family how the advance directive should be applied, 3) explaining the principles of surrogate decision making, 4) correcting misperceptions about the patient's clinical situation, and 5) repeating information. The relationship-building outcome contains the following themes: 1) expressing empathy, 2)

asking about the patient as a person, 3) asking about the patient's values, 4) offering support services, and 5) naming shared interests. We chose these themes to include in the outcome measure because they are the themes that mostly clearly fit into this existing framework of task-focused and relationship-building communication.

Statistical Analysis—To make initial comparisons of communication statements used by palliative care specialists and intensivists, we used t-tests (using unequal variance as appropriate). We used negative binomial modeling to assess for an association between the use of task-focused or relationship building communication and whether the physician was a palliative care specialist. We chose this method over Poisson due to overdispersion—a phenomenon when the variance is much larger than the mean.[31] We excluded the medical residents from the primary analysis in order to reduce confounding due to training level.

To assess for confounding variables that may affect the relationship between communication strategy and palliative specialty, we used the change-in-estimate approach.[32,33] This method of model selection is advocated by some methodologists because it has shown potential gains in precision.[34] In this approach, we fit bivariate models, each with palliative care specialty as the primary predictor and a potential confounding variable as the covariate. We considered a variable as a confounder if it changed the effect size of the relationship between the main predictor (palliative care specialty) on the outcome measure (task-focused or relationship-building communication) by at least 10% when that variable was added to the model.

We tested the following variables as potential confounders in this manner: clinician age, gender, ethnicity, years in practice, and medical training level (attending vs fellow). Supplemental Tables 1 and 2 contain the results from this testing. The variables that changed the effect size by at least 10% and were included in the final multivariate model were clinician age, years in practice, ethnicity, and medical training level (attending vs fellow). Because clinician age and years in practice are collinear, we only included years in practice in the model. We also included gender in the model because we found it to be an independent predictor of task-focused communication in univariate modeling.

We also performed a sensitivity analysis to determine if the modeling results are robust to small changes in how the outcome measures are constructed. We changed the outcome measures by adding fewer task-focused or relationship-building communication themes. For example, in addition to using the five themes as listed above to create the task-focused communication outcome, we also completed the same analysis with the task-focused communication outcome containing four of these themes. We then completed the same analysis using only three themes for this outcome. We followed the same procedure for the relationship-building communication outcome. Supplemental Table 3 contains this sensitivity analysis.

Supplemental Table 4 contains the results of this same analysis but including the residents. The main results are no different than the primary analysis where residents were excluded.

We used STATA 13.1 (StataCorp, College Station, Texas) for all analyses.

Results

Characteristics of study participants

Table 1 shows the demographic characteristics of the physicians who participated in the study. The sample consists of 36 physicians: 22 attending physicians (61%), 9 pulmonary and critical care fellows (25%), and 5 internal medicine residents (14%). The palliative care specialist group consists of 11 attending physicians who are board certified in hospice and palliative medicine. The intensivist group consists of 10 attending physicians who are board certified in other specialties including pulmonary and critical care medicine, anesthesia, and emergency medicine as well as 9 pulmonary and critical care fellows who are board certified in internal medicine and 5 internal medicine residents who were rotating through the intensive care unit and are not board certified. We excluded the medicine residents' data from the primary analysis in order to reduce confounding due to training level. All pulmonary and critical care fellows receive training in conflict resolution as part of their fellowship training. Physicians' mean age was 37 years old with a mean of 8 years in practice. The sample was diverse in terms of gender and race.

There was no difference in the duration of conferences between palliative care specialists and intensivists (mean 22.5 +/− 5.9 minutes vs 21.3 +/− 6.1 minutes, respectively).

Main Themes of Conflict Management

Table 2 contains the main themes of conflict management statements demonstrated during the simulated conferences and corresponding exemplars. These main themes include: understanding of medical facts and prognosis, sharing and understanding of patient values, educating about the surrogate' role, supporting the surrogate, and attempts to resolve conflict.

Comparing the Conflict Management Styles of Palliative Care Specialists and Intensivists

Figure 1 shows that palliative care specialists perform more relationship building communication and less task-focused communication per family conference compared with the intensivists. Table 3 shows the results from the negative binomial modeling. This modeling shows that, after adjusting for confounders, palliative care specialists perform significantly less task-focused and a trend toward more relationship-building communication compared to intensivists.

Palliative care specialists' use of task-focused communication

Palliative care specialists used 45% less task-focused communication statements compared with intensivists (IRR 0.51, 95% CI 0.34–0.78, p= 0.002), as detailed in Table 3. This relationship remained statistically significant when adjusting for clinician years in practice, gender, ethnicity, and attending vs fellow status. Table 4 contains the mean frequencies and p-values of task-based communication statements used including: 1) giving information about prognosis (mean 1.6 times per conference vs 3.9 times per conference by intensivists, p=0.007), 2) telling the family how the advance directive should be applied (1.5 vs 2.9 times per conference, p=0.07), 3) explaining the principles of surrogate decision making (1.8 vs

2.5 times per conference, p=0.30), 4) correcting misperceptions about the patient's clinical situation (0.4 vs 0.6, p=0.52), and 5) repeating information (0.3 vs 1.1, p=0.03).

Palliative care specialists' use of relationship-building communication

Palliative care specialists used 54% more relationship-building communication statements compared with intensivists (IRR 1.54, 95% CI 0.93–2.56, p=0.095), as detailed in Table 3. This relationship was not statistically significant in the unadjusted model or in the model adjusted for clinician years in practice, gender, ethnicity, and attending vs fellow/resident status. Table 4 contains the mean frequencies and p-values of relationship-building communication statements including: 1) expressing empathy (mean 7.1 times per conference vs 4.6 times per conference by intensivists, p=0.15); 2) asking about the patient as a person (1.5 vs 0.8 times per conference, p=0.17), 3) asking about the patient's values (0.9 vs 0.6 times per conference, p=0.23), 4) offering support services (0.5 vs 0.6, p=0.80) and 5) naming shared interests (1.1 vs 0.7, p=0.29).

Supplemental table 3 contains the sensitivity analysis that shows our modeling results are robust to small changes in how the outcome variables are constructed as described above in the Statistical Analysis section. Supplemental table 4 contains the analysis including medical residents and produces similar results to the main analysis.

DISCUSSION

We used a novel simulation methodology to study surrogate-physician conflict over appropriate end-of-life care in the ICU. We found that palliative care physicians differed from intensivists in how they communicated when there was conflict with surrogates over appropriate care. First, they engaged in less task-focused communication compared with intensivists (e.g., conveying biomedical information). Second, there was a trend toward engaging in more relationship-building communication (e.g., making efforts to understand the patient as a person).

This study provides new information about the differences between how palliative care specialists and intensivists approach end-of-life communication. We are aware of no other studies addressing this topic in the ICU environment. In the outpatient setting, Roter and colleagues audiotaped experts in ethics and patient-physician communication talking to patients about advance care planning and found the experts spent more time listening compared to other internists.[35] The similarities in results suggests that experts have a unique skill set for managing difficult conversations regardless of setting. These skills differ from what non-experts do.

Physicians' communication behavior has important clinical implications.[36,37] Competence in end-of-life conversation is associated with increased patient satisfaction and lower rates of liability litigation.[38–40] Communication style also may affect psychological outcomes. For example, more compassionate physician behavior during communication is associated with less patient anxiety.[41]

When managing conflict, decreasing the emphasis on information transfer and focusing on a relationship-building strategy may be more effective.

Understanding how experts manage conflict may help us build an educational program that teaches clinicians conflict management skills. Exercises that simulate difficult situations such as conflict are a safe and efficient method to train non-experts in a way that mitigates the risk of emotional distress when practicing underdeveloped communication skills.[14,15] For example, a three day course using simulated patients and immediate feedback increases critical care fellows' self-reported family meeting communication skills.[42]

Our study has several limitations. First, because of the small sample size, we were unable to detect a statistically significant difference in the use of relationship-building communication statements. This could also be because palliative care specialists utilize a larger toolbox of communication skills consisting of both task-based and relationship-building communication. Also, some intensivists may be more like experts in their use of relationship-building communication and this would bias toward the null. Second, because this was a simulation, we were unable to determine if these different approaches to conflict management result in different outcomes for families. Future study is needed to examine the impact of the different approaches on conflict resolution, decision making, and surrogate decision makers' outcomes. Third, the intensivist group included physicians at different levels of training and the palliative care specialist group included only attending physicians. Inclusion of palliative care fellows would have created more balanced groups in terms of experience level. To reduce confounding due to training level, we excluded residents from the primary analysis and adjusted for attending vs fellow status in the model. Finally, the conflict management statements described are in response to one type of conflict- whether to continue life-sustaining therapy for a critically ill patient with an advance directive. There are many other types of conflict and further study is needed to simulate other scenarios.

CONCLUSIONS

We found that palliative care specialists engage in less task-focused communication and a trend toward more relationship-building compared to intensivists. These findings may help explain some of the mechanism of benefit behind palliative care consultation in cases of conflict in ICUs. These expert conflict management strategies could be incorporated in future exercises to train intensivists in high quality communication skills.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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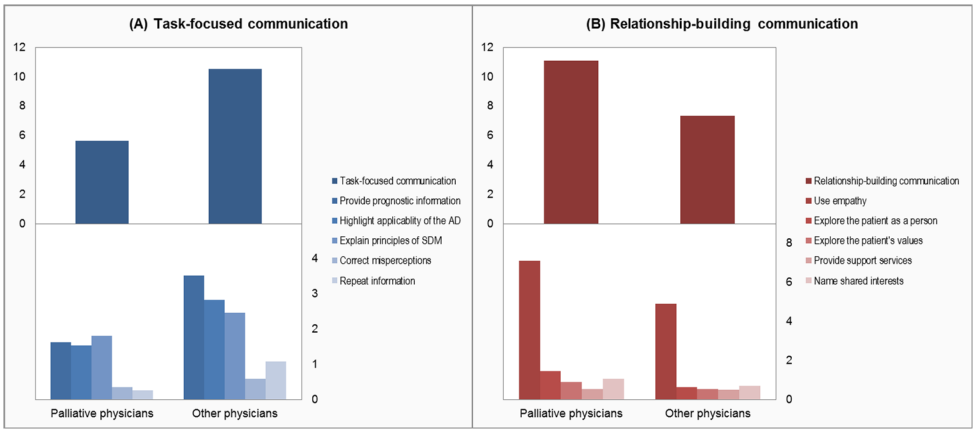

Figure 1.

Mean frequencies of statements per conference by (A) task-focused communication and (B) relationship building communication

Table 1

Characteristics of participants (N=36)

	Intensivists (N=20)	Intensivists Including Residents (N=25)	Palliative Specialists (N=11)	Total (N=36)
	count (%)			
Gender				
Male	9 (45%)	12 (48%)	4 (36%)	16 (44%)
Female	11 (55%)	13 (52%)	7 (64%)	20 (56%)
Race				
White	9 (45%)	13 (52%)	8 (73%)	21 (58%)
Asian/Pacific Islander	6 (30%)	7 (28%)	3 (27%)	10 (28%)
Black/African-American	2 (10%)	2 (8%)	0	2 (6%)
Other	1 (5%)	1 (4%)	0	1 (3%)
Declined to answer	2 (10%)	2 (8%)	0	2 (6%)
Training level				
Attending	11 (55%)	11 (44%)	11 (100%)	22 (61%)
Fellow	9 (45%)	9 (36%)	0	9 (25%)
Resident	0	5 (20%)	0	5 (14%)
Primary Specialty *				
Internal Medicine	15 (75%)	15 (60%)	9 (82%)	24 (67%)
Emergency Medicine	5 (25%)	5 (20%)	0	5 (14%)
Anesthesia	2 (10%)	2 (8%)	0	2 (6%)
Neurology	1 (5%)	1 (4%)	0	1 (3%)
Family Medicine	0	0	2 (18%)	2 (6%)
Not applicable (residents)	-	5 (20%)		5 (14%)
Subspecialty *				
Pulmonary and Critical Care Medicine	5 (25%)	5 (20%)	0	5 (14%)
Critical Care Medicine	5 (25%)	5 (20%)	0	5 (14%)
Hospice and Palliative Medicine	0	0	11 (100%)	11 (31%)
Infectious Diseases	1 (5%)	1 (4%)	0	1 (3%)
Geriatrics	1 (5%)	1 (4%)	1 (9%)	2 (6%)
Nephrology	1 (5%)	1 (4%)	0	1 (3%)
None	8 (40%)	8 (32%)	0	8 (22%)
Not applicable (residents)	-	5 (20%)		5 (14%)
	Mean (SD)			
Age (years)	36.3 (7.0)	34.5 (7.2)	44.1 (9.9)	37.4 (9.2)
Years in practice	7.2 (6.3)	5.7 (6.4)	13.3 (10.2)	8.0 (8.4)
Self-rated skill in handling difficult conversation (0 worst - 10 best)	7.2 (1.6)	7.2 (1.5)	8.1 (1.1)	7.5 (1.5)

* Sums add to >100% because some answered more than one specialty

Table 2

Themes of Conflict Management Statements with Exemplars

Theme	Exemplars
Understanding of medical facts and prognosis	
Prognosticating *	"His overall prognosis is very bad. He [has] a high chance of not making it"
Hanging crepe	"And he's very, very sick. And then you add the very advanced lung cancer on top of this… those are things we can't fix."
Repeating information *	"like I mentioned already, I, I doubt that he'll be able to leave the hospital. People don't just don't do well with the type of illness that he has."
Acknowledging uncertainty	You know, no one can predict the future and I would be remiss if I made any promises one way or the other.
Correcting misperceptions *	So, I hear what you're saying that before there was a full recovery, but at this time it seems like there might be a little more going on.
Checking understanding	"what do you understand? What were the conversations you had with him?"
Sharing an Understanding of Patient Values	
Naming shared interests +	"We're hoping for the same thing, we're going to try to work toward that same goal… we just want to make sure that we have the same expectations for where we're headed."
Exploring patient values +	"Do you mind just walking him through some of his Five Wishes here and telling me, you know, what was going on with him and what might have caused him to make the answers that, that he made?"
Discussing patient as a person +	"So let's talk about him more. What, what kind of things did he enjoy?"
Educating about the surrogate's role	
Highlighting the applicability of the advance directive *	"And it looks like he wrote 'no life support for any reason', and right now he's definitely on life support"
Discussing principles of surrogate decision making *	"you are the person that he has chosen to help make decisions … as that person ,it's your responsibility to act out of what he would want."
Supporting the surrogate	
Understanding emotion +	"because I understand where you're coming from, I understand your love, very, very, very big love for him, and that you would love to have a chance to just say a few words and have him respond."
Exploring the surrogate's point of view	"Now, what's your hope? What do you think, what do you hope will happen?"
Offering support services +	"if you have any social problems, you know, dealing with all this, we also have a social worker that can help you through this"
Offering personal availability	"I'm here all day, and somebody can reach me all night, so if you have any questions or concerns at any time"
Respecting/praising +	"It sounds like you've done an incredible job, sticking with his, at his bedside and, and being there with him and constantly visiting him."
Supporting emotionally +	"no matter what you choose, we'll be there to support you"
Naming the emotion +	"I hear what you're saying and your concern about feeling like you were giving up on him"
Exploring emotions +	"How do you feel about everything in our discussion?"
Attempts to resolve conflict	
Delay decision making	"No decisions need to be made right now, OK?"
Stay the course	"We're going to continue, we're going to continue the treatment that we're doing, OK. That's not going to change."
Make a treatment recommendation	"if his heart were to give out, we wouldn't recommend doing chest compressions for him, pounding on his chest and doing CPR."

Theme	Exemplars
Generate options	“Maybe it would help if I tell you a little bit about sort of what our options are at this stage, OK?”
Defer to the surrogate	“So, even though he has the directive, because you’re his power of attorney, your decisions are what we’ll follow.

*Task-focused themes;

+Relationship-building themes (naming the emotion, understanding emotion, respecting/praising, supporting emotionally, and exploring emotions were combined to form “expressing empathy”)

Table 3

Incidence Rate Ratio for Physician Behaviors during Interviews Excluding 5 Residents (N=31)

Outcome variable Predictor variable	Incidence Rate Ratio (95% Confidence Interval)	*P* Value
Task-focused communicative behaviors		
Specialized in palliative care (vs. not)-unadjusted	0.51 (0.34–0.78)	0.002
Specialized in palliative care (vs. not)-adjusted	0.55 (0.36–0.83)	0.005
Years in practice	1.01 (0.98–1.04)	0.590
Female (vs. male)	0.59 (0.40–0.86)	0.007
Racial minority (vs. non-Hispanic white)	0.78 (0.52–1.19)	0.257
Attending (vs. fellow)	0.81 (0.50–1.31)	0.387
Relationship-building communicative behaviors		
Specialized in palliative care (vs. not)-unadjusted	1.54 (0.93–2.56)	0.095
Specialized in palliative care (vs. not)-adjusted	1.48 (0.89–2.46)	0.128
Years in practice	1.00 (0.96–1.04)	0.963
Female (vs. male)	1.15 (0.68–1.95)	0.604
Racial minority (vs. non-Hispanic white)	0.66 (0.40–1.10)	0.108
Attending (vs. fellow)	0.67 (0.35–1.27)	0.219

Table 4

Mean Frequencies and P-values for Task-Focused and Relationship Building Communication Statements.

Communication Statement	Palliative Specialists' Mean Frequency (SD) per conference	Intensivists' Mean Frequency (SD) per conference	p-value
Task-Focused Communication			
Provide prognostic information	1.6 (1.7)	3.9 (2.3)	0.007
Highlight the applicability of the advance directive	1.5 (1.2)	2.9 (2.2)	0.07
Explain principles of surrogate decision making	1.8 (1.5)	2.5 (1.8)	0.30
Correct misperceptions	0.4 (0.8)	0.6 (1.0)	0.52
Repeat information	0.3 (0.5)	1.1 (1.4)	0.03
Relationship-Building Communication			
Use empathy	7.1 (4.5)	4.6 (4.4)	0.03
Explore the patient as a person	1.5 (1.4)	0.8 (1.3)	0.17
Explore the patient's values	0.9 (0.7)	0.6 (0.8)	0.23
Provide support services	0.5 (0.5)	0.6 (0.6)	0.80
Name shared interests	1.1 (0.7)	0.7 (1.1)	0.29