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A Communications Bundle to Improve Satisfaction for Critically Ill Patients and Their Families: A Prospective, Cohort Pilot Study

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A Communications Bundle to Improve Satisfaction for Critically Ill Patients and Their Families: A Prospective, Cohort Pilot Study

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Abstract
Context. Communication skills training with simulated patients is used by many academic centers, but how to translate skills learned in simulated settings to improve communication in real encounters has not been described.

Objectives. We developed a communications bundle to facilitate skill transfer from simulation to real encounters and improve patient and/or family satisfaction with physician communication. We tested the feasibility of its use in our hospital's medical intensive care unit (MICU).

Methods. This prospective cohort 2-week feasibility study included patients admitted to the MICU with APACHE IV predicted mortality >30% and/or single organ failure. The communications bundle included simulation communication training for MICU physicians, scheduling a family meeting within 72 hours of MICU admission, standardized pre- and post-meeting team huddles with the aid of a mobile app to set an agenda, choose a communication goal, and get feedback, and documentation of meeting in the electronic medical record. The intervention group receiving the communications bundle was located in a geographically separate unit than the control group receiving standard of care from MICU physicians who had not received training in the communications bundle. Patient satisfaction surveys were given within 48 hours of the family meeting and scores compared between the two groups. We also compared trainee self-perceived communication preparation.

Results. The intervention group ($N = 15$) scored significantly higher on satisfaction than the control group ($N = 16$) ($P = 0.018$). Intervention group trainees reported improvement in self-perceived communication preparation.

Conclusion. Use of the communications bundle proved feasible in the MICU and suggests association with improved patient satisfaction and trainee self-perception of communication preparedness.   J Pain Symptom Manage 2017;53:644−649. © 2017 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

Key Words
Family meeting, communication skills, patient satisfaction, communications bundle

Introduction

Approximately 75% of patients in the intensive care unit (ICU) lack capacity, and family members are often making decisions about end-of-life care.[1] End-of-life discussions are necessary in the ICU setting as approximately 22% of all U.S. deaths occur in the ICU.[2] Many families often do not understand even basic information about their loved ones' illness and treatments.[3] Physicians frequently miss opportunities to address family concerns and attend to family emotions.[4] Families who shared in end-of-life decision

making in the ICU reported high rates of posttraumatic stress[5] and frequently perceived conflict with ICU physicians.[6] Effective physician-surrogate communication has many benefits including decreased ICU length of stay,[7] reduced psychological distress among patients' families,[8] and reduced conflict between families and ICU clinicians.[7,9]

The American Thoracic Society has recommended increased education in communication skills training for intensivists.[10] Communication education has traditionally been fulfilled through role modeling and lectures; however, these methods have not been shown to improve skills. Workshops focusing on practice with simulated patient-family members have been shown to improve self-rated and faculty-rated communication skills for critical care fellows[11,12]; however, these ratings may not correlate with patient and family satisfaction with communication.[11]

Over the past three years, many of our medical ICU (MICU) physicians, fellows, and residents received formal communication skills training with simulated family meetings using the VitalTalk model (initially called Oncotalk Teach).[13] However, no standard process yet exists to translate skills learned in simulated settings to improve communication in real clinical encounters. Clinical practice in the ICU poses barriers to effective communication that are not encountered in the simulated setting, including finding time to meet with families early in the ICU course and working collaboratively with nurses and other ancillary staff. To bridge this gap and translate skills learned from simulated to real clinical encounters, we developed a comprehensive communications bundle to help improve patient/family satisfaction with physician communication in the MICU. To test the feasibility of using the communications bundle in the MICU, a pilot study was undertaken in May 2015. To assess other potential benefits of the communications bundle, a secondary outcome included trainees' perception of preparedness for communication.

Methods

This prospective cohort two-week pilot study aimed to determine the feasibility of using a communications bundle to help improve patient/family satisfaction with team communication in the MICU at our urban academic medical center. A secondary aim assessed whether use of the communications bundle impacted trainee survey scores on self-perception of communication skills in end-of-life situations. The study was approved by the institutional review board.

Our hospital's patients are randomly assigned to MICU units based on bed and nursing availability.

Patients admitted to the MICU with APACHE IV predicted mortality greater than 30% and/or single organ failure were consecutively enrolled in the study in May 2015. Patients with chronic ventilator-dependent respiratory failure, expected length of stay less than 48 hours, and no identifiable surrogate and not able to participate in family meetings were excluded. Informed consent was obtained verbally and in writing by the patient or patient surrogate.

Control patients were cared for in geographically separate units of the MICU where staff did not have any prior training in communication skills within the past year or in the communications bundle including VitalTalk training 13 (www.vitaltalk.org). These units were selected as the control because of the lack of communication skills training, and no standard communication protocol was being used for communicating with patients and families, although MICU teams of critical care physicians and nurses are expected to conduct patient and family meetings as needed.

The intervention group was cared for in a selected unit of the MICU where staff physicians and fellows had been trained previously in VitalTalk and the communications bundle. Staff, fellows, and residents caring for the intervention group had participated in workshops within the past year to practice their own communications skills. The workshops employed skilled improvisational actors to play the part of surrogates. In the small group–based workshops, experienced facilitators assisted participants to hone specific communication skills by pausing the simulated meeting, allowing for reflection, small-group brainstorming, and "rewinding" the family meeting to try new skills. In particular, the staff physician had participated in both communication skills training workshops as well as workshops specifically aimed at building skills in giving feedback in real time to trainees. The fellow had previously participated in a three-day communication skills workshop. All the residents on the intervention unit's team had previously participated in three separate small-group sessions totaling 7.5 hours over a year. In addition, this unit's team (physicians and nurses) received training on the communications bundle before the start of the study.

The communications bundle consisted of physicians receiving simulation communications training plus four steps. Steps 2 and 4 were modeled after the style of training in the simulation workshops. Team huddles were conducted by the same critical care physician trained in how to lead a huddle. The bundle steps included the following: 1) Schedule the family meeting to occur within 72 hours of MICU admission. 2) Conduct MICU team huddle to discuss communication with consulting services, set the

agenda for the family meeting, assign roles for the family meeting, discuss engagement of nurses and ancillary staff, and set a communication goal for the trainee leading the meeting. 3) Conduct the family meeting. 4) Conduct post-meeting MICU team huddle to focus on feedback on communication observed, documentation of the family meeting in the electronic medical record (EMR) system, and discussion of communication needed with consulting services. We developed the "CLEAR conversations" mobile app and used it to follow a template for the pre- and post-meeting huddles, to review core communication frameworks, and to watch video examples of communication skills when needed. More information about the free app is available at https://clearconversations.wordpress.com/2014/07/25/the-app/.

Outcome Measures

Measurement of effective communication in the ICU has been embedded in numerous national quality measures, including the Hospital Consumer Assessment of Healthcare Providers and Systems survey.[14] Because our institution uses the Hospital Consumer Assessment of Healthcare Providers and Systems survey to track patient satisfaction, we devised a survey with similar questions that are related to satisfaction with physician communication using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree; Table 1). The satisfaction survey was administered verbally by a member of the MICU's VitalTalk-trained team (D. B.) or a nurse (H. B.), who were not involved in patient care, to intervention and control group patients and families within 4−5 days after the admission (24−48 hours after the family meeting as per the communications bundle). If the patient became incapacitated or died before the survey was conducted, the preidentified surrogate and family completed the survey. The primary outcome measure compared patient and family satisfaction with physician communication using survey scores between the two groups. Mean scores for each question as well as aggregate scores for all questions were compared. Data were obtained for both groups on compliance rate of documenting family meeting in the EMR.

To assess other potential benefits of use of the communications bundle, a secondary outcome measure compared trainee self-perception of preparedness of communication skills in family meeting scenarios. Trainees completed a survey (Table 2) before and after the pilot study and survey score changes were compared between intervention and control groups. The trainee survey used a five-point Likert scale (1 = not well prepared, 5 = very well prepared) and was designed by Arnold et al.[11] who adapted it from the Oncotalk evaluation.

Table 1
Patient/Family Survey of Satisfaction With Physician Communication

Survey Question	Intervention (*N* = 15)	*P*-value*
1. I would like for the ICU doctors to care for other members of my family.	4.75 (0.45)	**0.029**
2. I feel that the ICU doctors are effective communicators.	4.75 (0.44)	**0.017**
3. I understand what the ICU doctors told me. The instructions are clear.	4.69 (0.60)	0.213
4. The ICU doctors understand my case and my medical history.	4.63 (0.72)	**0.021**
5. I did not feel rushed when I was talking with the ICU doctors.	4.81 (0.40)	**0.012**
6. The ICU doctors used easy-to-understand terms when talking with me.	4.88 (0.34)	**0.008**
7. The ICU doctors treated me with respect.	4.93 (0.25)	**0.012**
8. The ICU doctors gave me enough time to talk and listened without interrupting me.	4.75 (0.58)	**0.031**
9. The ICU doctors answered my questions with language that I could understand.	4.81 (0.40)	0.065
10. The ICU doctors addressed my emotional and personal concerns.	4.63 (0.5)	0.368

*Bold denotes statistical significance.

Data Analysis

Fisher exact test and Student t-test were used to compare demographic and other variables between the two groups. To assess the impact of the communications bundle, a two-sample t-test was used to detect the difference of patient satisfaction scores between control and intervention groups. This method was also applied for comparing self-perceived communication preparedness scores among trainees who did or did not use the communications bundle. The statistics were calculated using SAS 9.4 (SAS Institute Inc., Cary, NC), and significance was set for *P*-values less than 0.05.

Results

Patients

A total of 31 patients were enrolled (15 intervention, 16 control). The intervention group was significantly younger (25−76 [mean 50.9] years vs. 42−90 [mean 68.8] years for control; *P* = 0.0023). No statistical differences were found between the two groups in gender (66.6% women intervention vs. 31% women control, *P* = 0.0756), APACHE IV scores (23.5% intervention vs. 33.6% control, *P* = 0.0676), or mortality (86.6% alive at discharge for intervention vs. 68.7% control, *P* = 0.3944), likely due to the small sample size.

Surveys were completed by five patients and 11 surrogates in the control group versus eight patients and

Table 2
Trainee Survey on Preparation in Communication Skills[a]

Overall, How Well Prepared Do You Feel to	Pretraining	Post-training	P-value[*]
Give bad news to a family about their loved one's illness?	3.7	4	0.3281
Conduct a family conference?	3.5	4.25	0.2386
Express empathy?	3.8	5	**0.0034**
Discuss various treatment options, including palliative care, with families of critically ill patients?	3.3	4	0.2996
Respond to families who deny the seriousness of their loved one's illness?	2.8	4.25	**0.0101**
Discuss discontinuing intensive care treatments?	3.8	4.25	0.3718
Respond to family members who want treatments that you believe are not indicated?	3.2	4	0.1065
Discuss code status (Do Not Resuscitate) with a family member?	4.2	4	0.3503
Discuss religious or spiritual issues with families?	2.8	4	**0.0035**
Elicit a family's concerns at the end of patient's life?	3.8	4.5	0.2209
Manage conflict with families of critically ill patients?	3.3	4	0.1854
Describe the dying process after ICU treatments are discontinued to a family member?	3.2	4	0.2491

[a]Five-point Likert scale (1 = not at all prepared, 5 = very well prepared).
[*]Bold denotes statistical significance.

seven surrogates in the intervention group. In aggregate score comparison, the intervention group scored significantly higher on satisfaction ($P = 0.018$) and had statistically significant higher scores on 8 of 10 questions (Questions 1, 2, and 4–9; Table 1).

A search in the EMR for all family meetings that occurred at any point in the hospitalization revealed that the intervention group had significantly higher EMR documentation of family meetings (12 of 15 documented vs. 4 of 16 in control; $P = 0.0038$).

Trainee Survey

For trainees caring for the intervention group ($n = 5$), a significant improvement in self-perception of preparation in communication skills between preintervention and postintervention was noted in three questions (expressing empathy; responding to families who deny the seriousness of their loved one's illness; and discussing religious or spiritual issues with families, Table 2). There were no significant differences in the self-perception of preparation in communication skills for trainees caring for the control group ($n = 9$).

Discussion

In conjunction with simulated communication skills training, the implementation of a communications bundle consisting of holding ICU family meetings within 72 hours of admission and standardizing pre- and post-meeting huddles was feasible and suggests an association with improved patient/family satisfaction with physician communication in the MICU. Although this study was only a two-week feasibility trial, providing a structured framework for ICU communication and feedback on these skills showed improvement in trainee self-perception of preparedness in three important domains. This communications bundle provides a structured approach that optimizes trainee communication skills education in

real time and also increases family satisfaction with communication in the ICU.

Prior research has shown that a formal communication curriculum involving practice with simulated ICU family members improved ICU fellows' self-rated communication skills.[11] Additionally, a structured communication curriculum involving role play and feedback using a behavioral communication skills checklist resulted in improvement of ICU fellow communication skills as rated by another clinician.[12] However, a limitation of previous work that examined patient and family perception of communication in real clinical encounters was the time lag between family meetings and surveys of the surrogates or families.[15] Use of patient and family ratings of communication that occurred within 24–48 hours of the family meeting is a major strength of this study.

Many factors may be barriers to translating improved communication skills in simulated settings to improved patient and family satisfaction with communication in real encounters. Clinicians and trainees may not continue to use the skills learned in simulation in real encounters, and busy clinical work may interfere with the ability to hold family meetings early in the ICU course. Physicians may also fail to work collaboratively with nurses and other ICU ancillary staff to provide the most effective communication to families. This study shows that it is feasible to implement a comprehensive communication skills bundle to address some of the barriers to effective communication in real clinical practice in the ICU. The bundle required less than five minutes to complete. The fidelity of the intervention was ensured by using the same critical care staff physician, pretrained in use of huddles, as the leader of the team huddles. The communications bundle, as done in simulation training, involved use of identifying a communication skill before the family meeting for the trainee to use during the meeting and for the team to provide

feedback on after the meeting. This shows evidence of successful translation of workshop learned skills to real clinical scenarios. Furthermore, results of this study provide preliminary evidence that combining simulated communication skills training, structured feedback on skills in real clinical encounters with the aid of a mobile app, and a systematic policy for early ICU family meetings with ancillary staff involvement serves to improve patient and family satisfaction with physician communication in the ICU.

We also measured EMR documentation because a benefit of documented family meetings is accessibility of the family discussion to other care providers. Although we did not assess the quality of the EMR documentation in this feasibility study, details of family meetings may benefit the process of hand-offs, provide consistency around code status, and improve shared interdisciplinary knowledge of usually private meetings.

It should be noted that the intervention patients were significantly younger, less sick, and had lower mortality at discharge compared to the control group; although the latter two variables were not significantly different, they may have contributed to the difference in outcome measures. Other limitations of this study include a small sample size, lack of randomization, and lack of blinding of staff conducting patient and family surveys, which limits the internal validity of the study. Future studies will incorporate separate study personnel who remain blinded to control versus intervention survey data. Additionally, we were not able to determine whether the simulation training or the bundle or both were responsible for the increase in patient satisfaction. Another limitation is that reinforcement of how to use the communications bundle before the start of the study may have influenced protocol compliance rates. As with any multifaceted intervention, we were not able to assess the relative impact of individual component parts. Additionally, we were not able to evaluate the contribution of trainee versus staff physician communication on families' ratings as they were not asked to distinguish between individual doctors. Based on the results from this feasibility study, further research with randomization and a larger sample size is warranted.

This communications bundle which combines structured communication skills education (simulation and in real time) and operational changes (routine early family meetings, formal pre-meeting/post-meeting huddles, involvement of nurses and ancillary staff) could serve as a model to improve communication education and patient and family satisfaction with communication in other ICU settings, as well as for other seriously ill patients in the inpatient setting.

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