Brief Report

Pilot Study to Improve Goals of Care Conversations Among Hospitalists

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Abstract

Context. Many hospitalized patients receive care that is not concordant with their goals. Teaching communication skills that better align goals and treatment can improve the care that patients receive.

Objective. To develop and test an innovative approach that encourages hospitalists to engage in goals of care (GOC) conversations with their patients.

Methods. We recruited 14 hospitalists and randomized half to receive electronic health record alerts for patients who might benefit most from a goals-of-care conversation, as well as communication coaching. The coaching required an initial meeting, then audio recording of two GOC conversations and feedback from the coach. Outcomes were the presence of GOC conversations (primary), the quality of the GOC conversations, physician perceptions of the intervention, and hospital metrics (e.g., 30-day readmissions, referrals to palliative care).

Results. We did not increase the frequency of GOC conversations but did improve the quality of the conversations. Patients of physicians who received the intervention had fewer 30-day readmission rates and were less likely to die 90 days after admission than patients of physicians in the control arm. Patients of intervention physicians also had fewer palliative care consults than patients of control physicians.

Conclusions. Teaching hospitalists to have GOC conversations translated into better skills and outcomes for patients. This pilot study shows promise and should be tested in a larger trial. J Pain Symptom Manage 2019;58:864–870. © *2019 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.*

Key Words

Coaching, palliative care, goals of care, communication

Introduction

High-quality care for patients and their families facing chronic, serious illnesses should include conversations about goals, preferences, and prognosis that affect treatment decisions.[1–6] These conversations become acutely important in hospital settings when patients and families must make complex treatment decisions quickly. Patients who have not participated in meaningful goals of care (GOC) conversations as a default tend to receive more aggressive treatment, more burdensome transitions, and higher health care utilization.[7] This can leave patients and families having to struggle with receiving potentially unwanted and physically uncomfortable and emotionally draining treatment.[8] The lack of communication and default to aggressive treatment can also lead to longer lengths of stay and higher rates of 30-day readmissions.[7]

Although palliative care teams often assist patients with GOC conversations, the palliative care workforce is extremely limited.[9] GOC conversations should be a

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core skill for most clinicians, leaving the more complex palliative care conversations for palliative care clinicians. Some have attempted to improve the quantity and quality of GOC conversations. Those who have attempted to improve the quantity have tested alerts to prompt GOC conversations and found they increased advance care planning (ACP) discussions and code status documentation.[10,11] Future directions for this work are helping clinicians know how to have the conversations in addition to alerting them.[12]

Those who have attempted to improve the quality of GOC communication have included intensive interventions such as 1:1 training, lectures, standardized patients, and role-plays.[13–17]

These studies included methods that were not easy for clinicians to participate (e.g., face-to-face courses). Although they were effective, they are complex and time-consuming and do not always affect important patient outcomes.[16,18,19] Some have suggested that to have the greatest impact, trainings should contain two critical components: practice and feedback as clinicians need to have an accurate sense what they are already doing well and what they need to improve.[20,21] We chose to attempt to teach in a manner that fits physicians' schedules best and has some evidence for efficacy.[22,23] Finally, all of these studies found that clinicians could improve either the quality or quantity of their communication. However, none of these studies tested 1:1 communication coaching paired with a system to remember when to have GOC conversations.

We tested a novel communication intervention that included both alerts for hospitalists to help them identify patients who have the greatest need for a GOC conversation and 1:1 communication coaching. Therefore, the goal of this pilot study was to test the feasibility, acceptability, and preliminary efficacy of this intervention on presence of GOC conversations (primary), quality of those conversations, perceptions of hospitalists of the intervention, and patient outcomes, including 30-day readmission, mortality, and referral to palliative care.

Methods

Sample

The Chief of Hospital Medicine Program emailed all hospitalists to inform them of the study. We excluded hospitalists who had previously participated in a previous communication coaching study. After providing informed consent, physicians completed a baseline survey that included demographic data and a description of prior communication training. Next, we randomized physicians using a random number generator to the intervention or control arms. Physicians in the intervention arm also completed a final survey after the intervention period to assess their impressions of the intervention and their communication. This study received full approval from the Duke University Institutional Review Board (study code/IRB ID: Pro00072714).

Intervention

Focus groups of hospitalists helped inform a set of patient conditions in which there was general consensus that a GOC conversation should be had with the patient if not previously performed. These included patients meeting one of more of the following criteria: 1) metastatic cancer, 2) dementia, 3) admission from a long-term care facility or skilled nursing facility, and 4) chronic illness (defined as congestive heart failure, chronic obstructive pulmonary disease, or end-stage renal disease) combined with either prior ICU stay in last six months or age $>$ 85 years.

We tested a multicomponent intervention that included alerts and communication coaching. First, we created electronic health record notifications that would alert when patients met any of the aforementioned criteria and a physician in our intervention cohort was designated as the attending physician for the hospital encounter. The first alert was a message to the users Inbasket. The second notification was a banner visible only to physicians in the intervention cohort that would be shown on the patient summary report that is shown on first opening chart. Both would highlight to the attending physician that the patient met predefined criteria for targeting GOC conversation.

Also, each hospitalist in the intervention arm received three coaching sessions to enhance the effect of the triggers (total time two hours). This involved a one-hour initial meeting in which the coach (K. I. P.) taught the mnemonic SUPER adapted from a previous study to emphasize one element (emotion).[24] SUPER represented 1) **S**et up the conversation, 2) assess **U**nderstanding of illness, 3) discuss **P**rognosis and **P**riorities, 4) expect **E**motion, and 5) make a **R**ecommendation (see Fig. 1 of pocket card). We adapted this from one used at the University of Pennsylvania that is tailored for hospitalists who typically initiate a brief, bedside GOC conversation. The tool incorporates elements of other well-known communication tools (e.g., NURSE for addressing emotion and SPIKES for delivering serious news).[25,26] For this trial, we added addressing emotion. When clinicians address emotion, patients have better understanding and less distress.[27] The hospitalist audio recorded two encounters for which they received an alert. The coach coded transcriptions of those encounters and met with physicians for a coaching session in which she reviewed these coded encounters with the hospitalist

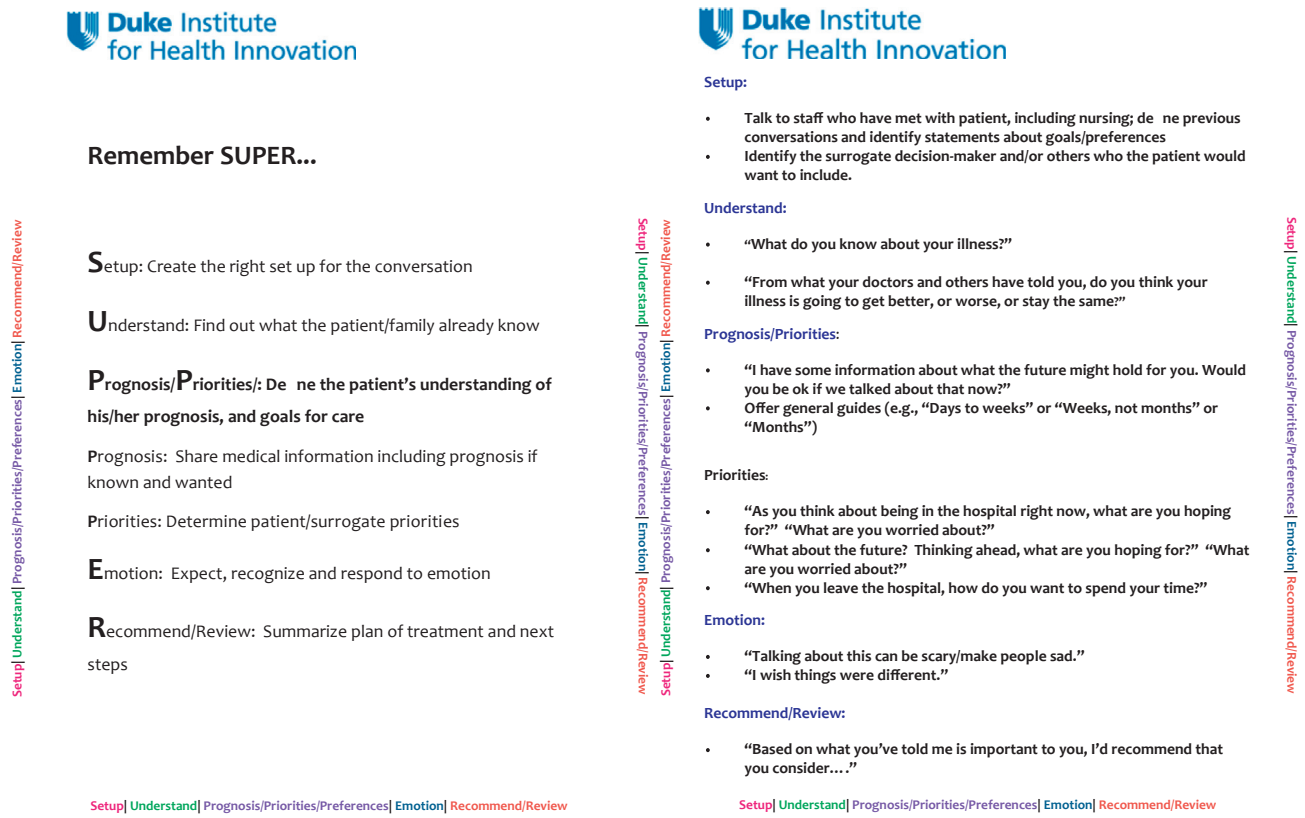

Fig. 1. SUPER pocket card.

(30 minutes). Then, the hospitalist audio recorded two more encounters with a repeat of the coaching session (30 minutes). The coach has studied clinician-patient communication for the past 15 years, has taught with VitalTalk trainers, and serves as a communication coach for the Department of Medicine.

Measures

We assessed hospitalist self-reported age, gender, race, ethnicity, years since medical school, and prior communication training to describe the sample. For our primary outcome, we performed chart reviews to identify GOC conversations. Documentation counted if the discharge summary included the phrase "goals of care." Documentation of (ACP) counted if the note author referred to ACP in the discharge summary or an ACP note was generated for the encounter with an alert. For our secondary outcomes, we compared skills (SUPER) demonstrated in the audio-recorded encounters (intervention arm only) from the first coaching session to the second. The coach coded these data and could not be blinded. We also assessed physician perceptions of the intervention by asking them how helpful the alerts and coaching were as well as whether they would recommend it to a friend. Finally, if the patient had a discharge summary after the encounter with an alert, we assessed key evaluation outcomes: readmission within 30 days, consult to palliative care, death after hospitalization, and referral to hospice. For all the chart audits, we identified patients through the system's electronic health record and examined both discharge summaries and reviewed encounter notes associated with the alert.

Patients were eligible for inclusion if they were a patient of an intervention or control physician during the study period from July 2017 to March 2018. We assessed all patients regardless of whether they had an alert to give a more real-world picture of hospital outcomes if this intervention were implemented.

Table 1
Physician Characteristics by Arm

	Physician Demographics		
Variable	Total ($n = 15$)	Control ($n = 7$)	Intervention ($n = 8$)
Male (%)	60	71	50
Age, mean (SD)	36.9 (4.5)	34.5 (3.2)	38.5 (4.7)
Race (%)			
White	73	86	63
Black/African American	7	0	13
Other	20	14	25
Years from residency, mean (SD)	8.3 (5.6)	5.1 (4.0)	11.1 (5.5)
Prior communication training (%)	53	43 ($n = 3$)	63 ($n = 5$)

Table 2
Patient Characteristics by Arm

Variable	Total ($n = 428$)	Control ($n = 159$)	Intervention ($n = 269$)
Male (%)	43	42	43
Age, mean (SD)	75.4 (14.9)	74.2 (16.5)	76.1 (13.9)
Race (%)			
White	52	50	53
Black/African American	44	46	44
Married (%)	28	29	28
Alerts (%)			
Metastatic cancer	12	20	7
Dementia	45	51	41
Age ≥ 85 w/chronic heart failure	10	19	5
Age ≥ 85 w/chronic obstructive pulmonary disease	8	8	7
Age ≥85 w/end-stage renal disease	0	0	0
Long-term acute care/skilled nursing facility	24	0	37

Analyses

First, we generated descriptive statistics to describe the patients and physicians across each arm and skills used during first and second recordings. Next, we used the Pearson's chi-square statistical test to explore the associations between the intervention and each evaluation outcome. We used Stata statistical software (Stata SE 15.1 for Windows; Stata Co, College Station, TX) for all statistical analysis.

Results

Sample Characteristics

We approached 23 potentially eligible physicians. Three refused, five did not respond, and 15 agreed to be in the study. All signed a consent form, completed a baseline survey, and then were randomized to either the intervention ($n = 8$) or control ($n = 7$) arms. After randomization, one physician withdrew leaving seven in each arm.

The sample of patient encounters for chart review included 502 hospital admissions at Duke University Health System from July 2017 to March 2018. For patients with multiple admissions during the study period, we only included data from the first hospitalization. Of the 502 admissions, 459 (91%) were unique patients. In cases where a patient saw two or more enrolled hospitalists, we elected to keep only the first record of contact ($n = 25$ records). We excluded six patients' encounters from chart review because of restriction of sensitive material (e.g., psychiatric notes). We performed chart review on the remaining sample of 428 unique patient admissions.

Physicians. Of the 15 physicians enrolled in the study, 60% were male and had an average age of 36.9 years (SD 4.5). About half of physicians reported prior communication training (Table 1). Physicians in the intervention arm were farther out from their residency and slightly more likely to report receiving communication training.

Patients. The sample of admissions ($n = 428$) was majority female (245; 57%); average patient age was 75.4 (range: 19–104). About 39% did not meet any alert criteria ($n = 167$), 201 (47%) met one alert criteria, and 60 (7%) met more than one (Table 2).

Outcomes. The primary outcome was attestation of provider of GOC conversations. We found no difference in the presence of documented GOC conversations. In the intervention arm, 49% included a description of a GOC conversation compared with 50% in the control arm (Table 3) (OR 0.97; 95% CI 0.64–1.46; $P = 0.8616$).

Patients seen by intervention physicians had significantly fewer 30-day readmissions (15%) than those seen by control physicians (25%) (OR 0.52; 95% CI 0.32–0.85; $P = 0.009$). Patients seen by intervention physicians had fewer readmission rates with 85 (32%) patients of intervention physicians being readmitted vs. 87 (55%) patients of control physicians (OR 0.38; 95% CI 0.26–0.57; $P < 0.001$). Fewer patients of intervention physicians died within 90 days of admission than those of control physicians (28 of

Table 3
Associations Between Goals of Care Coaching Intervention and Evaluation Outcomes Using Logistic Regression

Outcome	Total ($n = 428$)	Control ($n = 159$)	Intervention ($n = 269$)	Odds Ratio	95% CI	*P*-value
Advance Care Planning note documented (%)	10	6	12	2.01	0.96–4.21	0.052
Goals of care addressed in discharge summary (%)	50	50	49	0.97	0.65–1.43	0.861
Any readmission (%)	40	55	32	0.38	0.26–0.57	0.000
30-Day readmission (%)	19	25	15	0.52	0.32–0.85	0.009
Palliative care consult (%)	17	18	16	0.85	0.51–1.43	0.549
Discharge with hospice (%)	9	8	9	1.1	0.54–2.23	0.790
Died during admission (%)	2	1	3	2.1	0.43–10.22	0.330
Died within 90 days of admission (%)	14	20	11	0.47	0.27–0.83	0.009
Observed length of stay, mean (SD)	9.4 (20.4)	10.6 (17.8)	8.7 (21.9)			0.442

Table 4
Physician Use of SUPER in First and Second Audio-Recorded Encounters

Skill	1st Session %	2nd Session%
Elicit understanding of illness	42	75
Discuss prognosis	42	50
Discuss priorities	42	88
Address emotion	50	94
Make recommendation	33	50

SUPER = **S**et up the conversation, assess **U**nderstanding of illness, discuss **P**rognosis and **P**riorities, expect **E**motion, and make a **R**ecommendation.

264 or 11% vs. 29 of 144 or 20%; OR 0.47; 95% CI 0.27−0.83; $P = 0.009$). On average, patients of intervention physicians had a shorter hospital stay than did patients of control physicians (8.7 days vs. 10.6 days; $P = 0.4415$), but this was not statistically significant. We also found no significant differences in referrals to palliative care among patients of intervention and control physicians (16% vs. 18%; $P = 0.549$).

Six of eight physicians randomized to the intervention arm recorded 18 conversations total. The coach had two coaching sessions for each physician that were approximately eight weeks apart from each other. Physicians in the intervention arm improved the percentage of time they used all of the elements of SUPER when having GOC conversations (Table 4).

Process Items. Overall, physicians rated the intervention highly. 80% of physicians rated the intervention as "very helpful," said they "made changes in their clinical practice," that they "had an impact on how effectively they communicate with patients," and that they would "definitely recommend it to a colleague." One physician said, "*The personalized assessment and review of my encounters with patients was most helpful. I learned what I was doing well and was given insight as to why the various techniques were effective.*"

Discussion

There are important findings from this pilot study. First, electronic alerts for physicians did not increase the frequency of their GOC conversations. This differs from what we found in a previous study and in other studies that found that alerts increased these discussions.[10−12,24] It is possible that the hospitalists in our current sample were less open to training than the previous cohort. It is also possible that unmeasured factors such as workload or length of stay reduced the intervention's effectiveness in this population. On exploration in the postintervention assessments with physicians, they stated they felt they had an innate sense of who needed a conversation. They also reported "alert fatigue" as they are alerted to do many tasks. This interpretation was not consistent with our findings, however, as they only had conversations with 50% of the patients who likely needed it the most. Finding a different alert system might be more effective in future studies.

Although the quantity of conversations did not increase, their quality and outcomes did improve. We found that physicians were more likely to address patient emotion after the coaching. The impact of the current less-intensive training compares favorably with Oncotalk and other trainings that found intervention clinicians responded to patients' negative emotion with more empathic statements than control clinicians.[28] Addressing emotion not only has important implications for GOC conversations but also improves patient satisfaction.[29]

Even more important, patients of intervention physicians had better hospital outcomes with fewer 30-day readmissions, fewer deaths after discharge, and fewer overall readmissions across the study period. These important metrics influence the quality of life of patients and families and also benefit health care systems. Avoiding readmission to the hospital might have been a direct result of having conversations about what is important to patients and families, with some possibly forgoing aggressive treatments that have complications. These results, particularly the finding about death after discharge which we cannot fully interpret given the study design, warrant further study. Although, we do not have details of the content of the conversations, these outcomes are promising.

The study findings should be interpreted in light of some limitations due to its small sample. With only seven physicians in each arm, small differences in characteristics could have affected findings and generalizability with one-third not enrolling in the trial. We also could not control for possible confounders or imbalanced randomization. We also might have witnessed a halo effect from physicians who audio recorded their own encounters. Similarly, the coach could not be blinded when coding the audio recordings. Furthermore, the alerts we identified might not generalize to gold standard criteria for having GOC conversations. We relied on a relatively crude measure of GOC conversations rather than delved into the content of the conversations that are not always documented. Related to this, we only abstracted some of the patient outcomes for a limited timeframe. Future studies can possibly use natural language processing to examine conversations and outcomes on a more granular level.

Overall, this pilot study shows the promise for coaching hospitalists to have GOC conversations with their patients. The coaching took only two hours of physicians' time and seems to have had a positive

effect on the quality of their conversations and on important patient outcomes. This study should be tested on a larger scale to replicate findings.

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