

Special Article

Expanding Goals of Care Conversations Across a Health System: The Mapping the Future Program



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Abstract

Context. Clinician failure to discuss goals of care (GOC) with seriously ill patients remains prevalent. Small-scale educational interventions have demonstrated improvement in physician communication skills, but it is unknown if these results translate into practice changes.

Objectives. To implement a large-scale educational intervention that would facilitate increased GOC discussions in at-risk patients, increase clinician confidence in having GOC discussions, and prove to be sustainable.

Methods. The Mapping the Future courses were four-to-eight-hour trainings, with brief lectures and demonstrations followed by practice with simulated patient cases. Participants completed precourse and postcourse surveys, including demographic information, self-confidence in a variety of communication tasks, willingness to initiate GOC discussions, barriers to GOC discussions, and self-perceived skill at having GOC conversations. We compared the rate of documentation of GOC discussions with at-risk inpatients in three hospitals for physicians who had taken the course and those who had not.

Results. Over a two-year period, we trained 512 clinicians in 42 sessions. After the course, participants felt that they had improved in all the skills that we taught and agreed that they would be more likely to initiate GOC conversations. Trained physicians were more likely than their nontrained colleagues to document a GOC discussion with at-risk patients (30.8% vs. 27.2%; $P = 0.0001$).

Conclusion. A large-scale educational intervention involving simulated patient cases increased GOC documentation across a health system. Other programs might consider collaboration with quality improvement specialists to measure the impact of education and situate it within other system changes to support increased GOC discussions. *J Pain Symptom Manage* 2018;56:637–644. © 2018 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

Key Words

Communication, teaching communication, goals of care, simulated patients, continuing medical education, postgraduate medical education, quality improvement

Background

Although most individuals indicate that they prefer only comfort-focused care in the final days of life, 30% of Medicare beneficiaries are still admitted to the intensive care unit at the end of life.¹ Clinician failure to discuss goals of care (GOC) with seriously ill patients is a major contributor to this disconnect—code status discussions typically occur within 48 hours of death, and in a study of metastatic cancer patients,

only 30% reported a discussion with their physician about their future care goals.² Even when they do occur, GOC conversations conducted by untrained physicians are typically brief and focused on specific treatments rather than broader values and goals.^{3–6}

Palliative care (PC) specialists receive training and faculty feedback in conducting conversations about GOC and advance care planning. Yet, there are not enough PC specialists to have all these conversations,⁷ and it is usually more appropriate for the clinicians

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who know the patients best and are most involved in the day-to-day care of patients with serious illness, to initiate conversations about GOC. Small-scale educational interventions have demonstrated improvement in end-of-life communication skills for non-PC physicians.^{8–10} However, to have the greatest impact and create system-wide change of delivery of care for seriously ill patients who may not see PC specialists, there is a need for much large-scale interventions.^{11,12}

We designed an educational intervention within our health care system to address this gap. Through Mapping the Future courses, we taught non-PC-trained physicians, nurse practitioners, and physician assistants across a large multihospital academic medical center how to conduct GOC conversations using a values framework. Our primary aim was to increase the frequency with which non-PC-trained clinicians conduct and document GOC conversations in seriously ill patients. We also wished to increase these clinicians' confidence in having these discussions and ascertain whether a large-scale communication training program could be carried out on a health system level.

The Curriculum

The Mapping the Future courses were one-time four-to-eight-hour trainings based on the VITALTalk model, with brief lectures and demonstrations followed by practice with simulated patient cases. Each session included between eight and 18 learners, with at least two facilitators. We used the REMAP (Reframe, Express Empathy, Map Values, Align with Values, and Propose a Plan) communication framework, which has been previously published.¹³ We developed three cases that we used for all the trainings, with modifications to the clinical details for each specialty. In the

eight-hour courses, learners met the simulated patients in the morning and then revisited the same patients in the afternoon, during which patients were further into the course of their illnesses. The morning of the eight-hour courses focused on reframing (primarily giving bad news) and responding to emotion. During the afternoon, we taught skills targeted to understanding the patient's values and recommending a plan consistent with those values. The four-hour courses were condensed versions of the eight-hour course with the same cases, where the learners used all the aforementioned skills in only one visit with the patient or family. At the end of the course, all learners received a pocket card that summarized the REMAP framework with examples.

The Mapping the Future courses were specific to specialty. Our initial curriculum was tailored to hospitalists, primary care physicians, critical care physicians, and oncologists. Over time, interest in our program took hold in a variety of specialties, and we thus developed variations of Mapping the Future courses for geriatricians, psychiatrists, emergency medicine physicians, surgeons, and nephrologists. We designed three simulated patient cases for hospitalists and then created variations on these cases with clinical scenarios tailored to each group being taught. We were thus able to use the same actors portraying the same emotional type and family dynamics for most of the trainings, although the clinical scenarios differed according to specialty. Each case shared common learning objectives to give a reframe or ascertain that patient/family understood prognosis, to respond to emotion, to explore and align with values, and to propose a recommendation that fit with those values. Each case also had unique challenges written into the scenario. [Table 1](#) outlines the hospitalist cases.

In creating each specialty case and detailed character scripts, we sought input from a representative

Table 1
Case Synopses for Mapping the Future Hospitalist Courses

Case Number	Case Description	Conversation Held With
Case 1	The patient is an 80-yr-old woman with a history of moderate dementia and CAD who was admitted to the hospital 10 days ago for pneumonia. Her infection has improved, but she remains only intermittently arousable. A speech evaluation showed aspiration. Currently, she is being fed and receiving medications through an NG tube; however, she pulled the tube out two days ago, and now she is in restraints to avoid her pulling it again. The clinician needs to discuss ongoing artificial nutrition and GOC with her daughter.	Patient's daughter
Case 2	The patient is a 58-yr-old woman with a history of non-small cell lung cancer diagnosed 18 months ago. She was admitted yesterday with shortness of breath and was found to have a right lower lobe pneumonia. She is requiring 6 L of oxygen, and blood pressure is 90/60. Given that she appears septic, the clinician feels the need to clarify her code status.	Patient
Case 3	The patient is a 60-yr-old man with end-stage liver disease because of alcohol. He was admitted five days ago with altered mental status and is being treated to spontaneous bacterial peritonitis, as well as for encephalopathy, and has some renal failure, which is new, with a creatinine of 2.2 today. His MELD score is 40. He is not a candidate for liver transplantation. The patient remains encephalopathic despite maximal treatment. The clinician needs to discuss GOC with the patient's family.	Patient's sister and son

CAD = coronary artery disease; NG = nasogastric tube; GOC = goals of care; MELD = Model for End-Stage Liver Disease.

physician to ensure that the details were clinically accurate. The simulated patients used for teaching were professional actors whom we trained for at least three hours before each new course. Simulated patient preparation included review of the case as a group, self-study by the actors to memorize the case, and then portrayal of the case by each actor with feedback until their performance was satisfactory. Actors also received faculty feedback and modified their character's portrayal during and after each course.

The evaluation of the Mapping the Future program outcomes was approved by the University of Pittsburgh Institutional Review Board. A private foundation funded the project with a grant of \$200,000 during two years.

Curriculum Assessment

Participants completed a precourse survey at the beginning of the training, which included demographic information, perceived self-confidence in a variety of communication tasks, willingness to initiate end-of-life discussions, and barriers to end-of-life discussions. At the end of the training day, participants completed a postcourse survey. At the end of the training, participants were asked to rate themselves on specific communication skills before the training (retrospectively) vs. after the training (currently) on a scale from 1 to 5. In addition, they rated their overall satisfaction with the course, likelihood of recommending it to others, and the likelihood of making changes in their practice. We also asked participants to name one thing they planned to do more of as a result of the training and asked for open-ended comments on what we should keep doing and what we should train. Copies of the precourse and postcourse surveys are available on request.

System-Level Assessment

As part of a separate quality improvement initiative, the health system had defined a group of at-risk patients who most clinicians would agree should have advance care planning or GOC discussions. The category of at-risk patients was developed based on a literature review and a consensus project with relevant specialists. At-risk patients were either of 90 years and older or 65 years or older with two or more hospitalizations within the past year and at least one serious illness (metastatic cancer, dementia, coronary artery disease, cerebrovascular atherosclerosis, chronic obstructive pulmonary disease, end-stage liver disease, or end-stage renal disease) identified by *International Classification of Diseases, Tenth Revision* code. Health system data indicated a 50% one-year mortality in this population.

We compared the rate of documentation of GOC discussions with at-risk inpatients in three academic

hospitals for all attending physicians who had taken the Mapping the Future training and those who had not. We measured GOC documentation by completion of the GOC note template, a searchable field that is available in every clinician note. Although the GOC template was not a mandatory field, physicians were encouraged to document any discussion of GOC in that template, rather than as a free-text part of their assessment and plan. The template includes prompts to indicate who the discussion was held with, topics of the discussion, and a free-text description of a discussion. Quality improvement analysts (not affiliated with our educational intervention) provided us data on completion or noncompletion of the GOC section of the note for at-risk patients. Any documentation in that note field was considered GOC documentation. Attending physicians were identified through the electronic medical record (EMR) as the physician who was attending on the patient at the time of discharge. We then used a Chi-squared test to compare the proportion of at-risk patient admissions with documented GOC discussions between trained and untrained physicians from January 1, 2017 through December 31, 2017.

Program Impact

Between September 1, 2015 and September 30, 2017, we trained 512 clinicians in 42 training sessions. Of these, 225 clinicians took an eight-hour course and 244 took a four-hour course. The mean number of attendees per session was 10–11. Most were internists, family physicians, oncologists, and critical care physicians. [Table 2](#) presents clinician participant characteristics.

On completion of the Mapping the Future course, participants generally felt that they had improved in each of the skills that we taught, and all the differences between pretraining and post-training self-rating scores were significant at the $P < 0.001$ level. Results are detailed in [Table 3](#).

Participants agreed that they would be more likely to initiate GOC conversations with patients and their families (mean agreement 4.5/5, where 5 is strongly agree), increase their use of empathic statements (4.6/5), and recommend a treatment plan (4.6/5). The strongest agreement (4.7) was that they would spend more time exploring patients' values and use reflections to align with patient values.

Participants rated the quality of the courses highly. On a scale of 1 to 5, where 1 was poor and 5 was excellent, the learners rated the course's importance to the development of their own clinical skills as 4.6 and relevance to their own specialty as 4.7. Ninety percent of participants either agreed or strongly agreed that the course should be recommended for clinicians in their specialty.

Table 2
Characteristics of Clinicians Participating in the Mapping the Future Courses

Clinician Participant Characteristics (N = 404) ^a	
Gender, n (%)	
Male	173 (42.8)
Female	214 (53.0)
Unknown	17 (4.2)
Critical care	32
Discipline, n (%)	
MD/DO	334 (82.7)
NP	39 (9.7)
PA	18 (4.5)
Unknown	13 (3.2)
Years in practice, n (%)	
Still training	50 (12.4)
1–5 yrs	127 (31.4)
6–10 yrs	49 (12.1)
11–15 yrs	44 (10.9)
>15 yrs	113 (28.0)
Unknown	21 (5.2)
Specialty ^b	
Internal medicine	139
Family medicine	147
Hospitalist	64
Oncology	27
Surgery	22
Gynecologic oncology	20
Nephrology	15
Physical medicine & rehabilitation	14
Gastroenterology	12
Cardiology	10
Palliative medicine	6
Geriatrics	8
Other/none marked	8

MD/DO = Medical Doctor/Doctor of Osteopathy; NP = nurse practitioner; PA = physician assistant.

^aDemographics were unavailable for 108 participants who did not complete a precourse survey.

^bParticipants could mark more than one specialty.

Participants took learning points from the course that were individualized and often complex. For example, when asked about the most important learning point from the course, a critical care physician wrote: “Silence. It is easy to keep talking but giving family members time and silence during conversations seems to help them feel in control of

conversation.” A physical medicine and rehabilitation physician indicated a goal of “Address emotions instead of going into exclusively cognitive explanations.” A hospitalist wrote that they intended to “tell patients ‘I wish ...’ when confronted with difficult situations or unrealistic goals.” A primary care physician said that they were “more likely to use what I know about a patient’s feelings and values to actively make a recommendation, rather than just coaching them to decide.”

In addition to the precourse/postcourse surveys, we also looked at electronic medical system measures for hospitalist physicians in our main academic hospitals who had completed the training. We found that they were more likely than their nontrained colleagues to have a documented GOC discussion with the at-risk patients they were discharging (30.8% vs. 27.2%; $P = 0.0001$). Table 4 shows these results in more detail.

Discussion

Most end-of-life communication training programs include trainees only⁸ or small groups of self-selected attending physicians from a single specialty.¹⁴ Communication training programs administered on a larger system-wide scale, although shown to be effective in improving patient satisfaction scores, have generally focused on teaching general relationship-centered and empathic communication rather than GOC.^{15,16} The Mapping the Future program was unique in its size, the number of specialties trained, and its focus on training attending physicians and other practicing clinicians, rather than trainees. To our knowledge, the results from Mapping the Future courses represent a first-of-its-kind analysis of a large-scale training on communication about GOC across a health system.

Determining the success of large-scale program changes in the real world is complex as these changes may not be easy to tie to patient-level outcomes. Although skill in teaching and good curriculum design are important, evidence suggest that continuing medical education (CME) lectures alone have limited effects on clinicians’ practice patterns.¹⁷ Proctor et al.¹⁸ defined a taxonomy of eight implementation outcomes to evaluate the success of large-scale programs. These intermediate outcomes include acceptability, adoption, appropriateness, costs, feasibility, fidelity, penetration (the integration of a new practice within an institution), and sustainability. Positive clinician feedback demonstrates the acceptability of this large-scale multispecialty educational intervention. Changes in GOC documentation showed that training can influence the documentation of GOC

Table 3
Participants’ Self-Rating of Specific End-of-Life Communication Skills After the Training

Mean ± SD	Before	After	P
Bring up advance care planning	3.3 ± .9	4.4 ± .6	<0.001**
Give bad news	3.5 ± .9	4.4 ± .6	<0.001**
Convey prognosis	3.3 ± .9	4.2 ± .7	<0.001**
Express empathy	3.9 ± .9	4.6 ± .6	<0.001**
Discuss code status	3.5 ± .9	4.4 ± .7	<0.001**
Discuss spiritual issues	3.1 ± .9	3.7 ± .8	<0.001**
Elicit concerns about death and dying	3.3 ± .8	4.3 ± .7	<0.001**
Manage conflict	3.0 ± .9	3.9 ± .8	<0.001**
Explore patient values to develop a treatment plan	3.2 ± .8	4.4 ± .6	<0.001**
Lead a family conference	3.3 ± 1.0	4.1 ± .9	<0.001**

Note: Paired t-tests were used for before vs. after comparisons.

Table 4

Comparison of Proportion of Admissions With Documented Discussions of GOC With At-Risk^a Inpatients by Trained vs. Untrained Physicians From January to December 2017

Encounter	Total Patients	Patients Cared for by Nontrained Physicians (<i>n</i> = 552)	Patients Cared for by Trained Physicians (<i>n</i> = 125)
At-risk patient encounters	13,209	10,309	2900
Encounters with GOC documented (%)	3694 (28.0%)	2801 (27.2%)	893 (30.8%)
			<i>P</i> = 0.0001

GOC = goals of care.

^aAt-risk patients are defined as those aged 90 and older or those aged 65 and older with one or more life-limiting illnesses and two or more hospitalizations within the past year.

discussions (implementation). We took advantage of other institutional changes to promote adoption of the new communication skills taught in the Mapping the Future courses. Later, we describe specific barriers we faced and how we overcame them to achieve acceptability and adoption, to manage the costs, and ensure feasibility, penetration, and sustainability.

Costs: Securing Financial Support for the Trainings

Funding from a foundation supported a 0.1 full-time equivalent faculty member to develop and organize the trainings, a 0.6 full-time equivalent administrative assistant who coordinated the training, and other associated costs such as the actors (approximately \$1200 for a half-day course and \$2400 for a full-day course), refreshments for the participants, supplies, and facility fees when we were unable to find a suitable location within our medical center. The Section of Palliative Care and Medical Ethics at the University of Pittsburgh also supported the training. During the first year of the course, we gave faculty teaching the courses a \$700 salary bonus for each day spent teaching. After the first year, we eliminated the bonus but were able to compensate faculty by reducing the days on service on the inpatient consult team proportionately for every day a faculty member spent teaching. Faculty attending the courses received no compensation but did receive CME credits.

Ensuring Feasibility: Creating a Cadre of Communication Teachers

We used a structured method of teaching communication with simulated patients based on best educational practices, requiring communication teachers to master a progressive sequence of steps.¹⁹ As teachers begin to practice with actual learners, they must be able to apply the steps to help learners identify what they did well, what they can do to improve, and how their specific behavior influenced the interaction. The process of becoming a skilled independent communication teacher using this method takes at least a year. The training included an initial three-day structured session, followed by a two-day course

a few months later, and then mentoring and feedback from senior teachers during the next period.

At the beginning of the Mapping the Future trainings, only six core PC faculty were trained to teach communication using this method; all of them had clinical or other responsibilities, which limited their teaching time. Therefore, our first step was to increase our communication teaching capacity. We held a series of three five-day communication teaching workshops and trained 24 new communication teachers. To improve our outreach to specialties outside PC, this group also included physicians from other specialties, such as critical care, primary care, and general surgery. To ensure fidelity to the method, we created a structured feedback tool with a checklist, which we used as a formative tool to help facilitators give feedback to each other. We also continued our faculty development by holding quarterly teaching communication practice evenings at a faculty member's home. The mean number of sessions taught per facilitator was 4.8, with a range of one to 23.

Promoting Adoption: Building Institutional Buy-In

To gain institutional buy-in and motivate department heads to send their faculty to the training, we held a three-hour demonstration session. The head of the Section of Palliative Care and Medical Ethics met with the Chief Medical Officer of the medical center and generated an electronic mail to go out to heads of various departments to recruit them to the session. The session included a talk, which introduced the REMAP framework, followed by two cases with standardized patients in which volunteers from the audience acted as small group participants, interacting with the patient and giving each other feedback. Nineteen participants attended the training, including the chief medical officer, department heads, and other leaders in oncology, nephrology, hospital medicine, emergency medicine, primary care, and obstetrics and gynecology. Afterward, we approached these leaders individually to ask them to recruit their faculty to attend a training. Some departments, such as the primary care outpatient community practices, critical care, cardiology, and oncology, agreed to require

faculty members to attend, whereas other groups (such as nephrology and geriatrics) simply encouraged attendance.

Ensuring Penetration: Cultivating Champions, Making It Easy, and Describing a Coaching Model

Penetration is the integration of a practice (in this case, our courses) within an institution. To increase penetration of the Mapping the Future curriculum, we offered the course at no charge to participants or their departments and provided CME credits. Still, marketing the program to participants and ensuring their attendance was a challenge. It was difficult for attending physicians and other practicing clinicians to find time to dedicate a full day to training. In addition, many participants, particularly senior physicians, felt that they were already skilled at having these conversations.

To meet these challenges, we cultivated internal champions who were friendly to PC to promote the trainings. In some cases, these physicians had been trained in communication teaching and could endorse the teaching method and help teach the courses. Other champions were senior physicians, often department heads. When we heard positive verbal feedback from one division chief, we asked him for and received a written quote that we used to publicize the trainings.

To respond to the more experienced physicians' reluctance and perceived skill level, we described a coaching model, referencing 2011 *New Yorker* piece "Personal Best: The Coach in the Operating Room" by Atul Gawande²⁰ on hiring a coach to improve his surgical skills. During the training, we repeatedly referenced participants' high skill level and invited them to try to go from good to great.

Another challenge was working with many different departments and finding the right person who could ensure that participants in their department had the off-service time and were aware of the training. Every department scheduled its physicians slightly differently. During the first six months, two courses were canceled for lack of attendance, after the department head had agreed to send her physicians to the training but neglected to inform the administrative staff who managed the physician schedules. Over time, we learned more about the operations of the other departments. Our administrative assistant cultivated relationships with the administrators of each department, until by the end of the period we were receiving lists of new physician hires for training without having to request them.

The most important factor contributing to our success is that we were flexible. In some cases, we agreed to come where the participants were instead of having the course at the most convenient location and time

for our department. This led to the oncology trainings being held on the same day and in the same location as the oncology department meetings. We encouraged departments to send their participants to full-day courses, but when we encountered significant resistance, we adapted the courses to four hours for some groups (critical care, primary care, and some of the hospitalist trainings). For one small hospitalist group, sending 10 physicians to a training would have eliminated the bulk of their clinical coverage. For that group, we agreed to train two smaller groups including six or less participants, condensed the course to four hours, and held it on site at their hospital.

Making the Most of Health Care System Changes

Previous studies on knowledge transfer interventions both in the care of seriously ill patients²¹ and general medicine²² indicate that a combination of a change in protocols, often driven by EMR reminders, education, and even financial incentives²³ may be the best way to effect practice change. Changes in the health care system to encourage GOC discussions with appropriate patients were not part of our communication teaching intervention. However, we were able to take advantage of some of these system changes to promote and measure the outcomes of the intervention. In addition to the creation of a searchable GOC template, to promote increased discussions, the Department of Medicine added documentation of GOC in at-risk patients to its physician incentive plan. Every six months, the target for GOC documentation in at-risk patients was raised 1% above the level achieved in the previous six months. If the department as a whole met this target, individual physicians received an annual bonus. The amount of the financial incentive received varied by specialty.

Maintenance

The institution is committed to training all new health system hospitalists and critical care physicians. We continue to reach out to other departments that frequently care for at seriously ill patients, including gastroenterology and neurology, to develop new GOC communication training programs. Sustainability is demonstrated by the continuation of courses after the project was completed. Since October 2017, we have held six Mapping the Future courses, with an additional three planned and one further teaching training course.

Limitations

Limitations of the Mapping the Future program include its resource-intensive requirements and challenges in measuring efficacy at both the patient outcome and clinician levels. The program required

an investment of both money and clinician time, and not every medical center is willing or able to make that commitment. In addition, we were able to integrate our educational program with other system changes, which also required buy-in from the health system. Other programs seeking to develop a similar approach might make the case that investment in training clinicians in primary PC may provide some of the key benefits seen with the increasing use of specialized PC. It is widely recognized that in health care systems that provide more specialized PC, there is a decrease in the intensity of services that the sickest patients receive in the last days of life and an increase in advance care planning, resulting in more high-value care and cost savings.^{24–26}

A second limitation is the level of accuracy with which data from the EMR were associated with clinicians who attended the trainings. As patients were identified by their attending physician at discharge, discussion and documentation of GOC could have been completed by another physician, resident, or nurse practitioner earlier in their hospitalization. We were not able to link trained and untrained physicians directly with GOC discussions. Tying education to patient outcomes is the gold standard in the evaluation of medical education interventions but is often difficult to accomplish.²⁷ Most medical education interventions are conducted without the benefit of funding and faculty time devoted to rigorous assessment through randomized controlled trials and are limited to self-report of participants and finding ways to search for relevant information in the EMR. Partnering with quality improvement specialists and gathering outcome data from the EMR is a way of approximating patient outcomes that require fewer resources.

The four-hour courses were an adaptation that we created during the implementation of the intervention, and we did not assess for differences between learner satisfaction and GOC conversations between learners who had received longer and shorter trainings. Further work on similar communication trainings should identify the minimum amount of training required to make an impact on clinician behavior.

Conclusion

Despite challenges and limitations, the Mapping the Future courses were successful on both departmental and institutional levels. By offering the courses across disciplines and specialties, we raised the profile of PC at our institution and encouraged clinicians in non-PC specialties to have critical conversations with seriously ill patients that they otherwise might not have had.

We look to the challenges and limitations we experienced as lessons learned to be applied to refining, adapting, and sustaining the Mapping the Future program. We have launched efforts to train new communication teachers, including those who can lead trainings in outlying hospitals that are more than an hour away from the academic medical center. We also are collaborating with quality improvement specialists to leverage reminders in the medical records to increase the rate of GOC conversations and improve program evaluation data collection. On a larger scale, we have worked with VITALTalk to expand the national and international pool of teachers. We move forward with the understanding that our ultimate goal, culture, and practice change can only happen with a flexible and sustainable program that adapts to real-world challenges and limitations and whose impact can only truly be measured over the course of years rather than months.

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References

1. Teno JM, Gozalo PL, Bynum JP, et al. Change in end-of-life care for Medicare beneficiaries: site of death, place of care, and health care transitions in 2000, 2005, and 2009. *JAMA* 2013;309:470–477.
2. Wright AA, Zhang B, Ray A, et al. Associations between end-of-life discussions, patient mental health, medical care near death, and caregiver bereavement adjustment. *JAMA* 2008;300:1665–1673.
3. Anderson WG, Chase R, Pantilat SZ, Tulskey JA, Auerbach AD. Code status discussions between attending hospitalist physicians and medical patients at hospital admission. *J Gen Intern Med* 2011;26:359–366.
4. Taylor LJ, Johnson SK, Nabozny MJ, et al. Barriers to goal-concordant care for older patients with acute surgical

illness: communication patterns extrinsic to decision aids. *Ann Surg* 2018;267:677–682.

5. Scheunemann LP, Cunningham TV, Arnold RM, Buddadhumaruk P, White DB. How clinicians discuss critically ill patients' preferences and values with surrogates: an empirical analysis. *Crit Care Med* 2015;43:757–764.

6. Chiarchiaro J, Ernecoff NC, Scheunemann LP, et al. Physicians rarely elicit critically ill patients' previously expressed treatment preferences in intensive care units. *Am J Respir Crit Care Med* 2017;196:242–245.

7. Lupu D, American Academy of Hospice and Palliative Medicine Workforce Task Force. Estimate of current hospice and palliative medicine physician workforce shortage. *J Pain Symptom Manage* 2010;40:899–911.

8. Back AL, Arnold RM, Baile WF, et al. Efficacy of communication skills training for giving bad news and discussing transitions to palliative care. *Arch Intern Med* 2007;167:453–460.

9. Schell JO, Green JA, Tulskey JA, Arnold RM. Communication skills training for dialysis decision-making and end-of-life care in nephrology. *Clin J Am Soc Nephrol* 2013;8:675–680.

10. Gelfman LP, Lindenberger E2, Fernandez H2, et al. The effectiveness of the Geritalk communication skills course: a real-time assessment of skill acquisition and deliberate practice. *J Pain Symptom Manage* 2014;48:738–744. e1–e6.

11. Bernacki RE, Block SD, American College of Physicians High Value Care Task Force. Communication about serious illness care goals: a review and synthesis of best practices. *JAMA Intern Med* 2014;174:1994–2003.

12. Institute of Medicine. *Dying in America: Improving quality and honoring individual preferences near the end of life*. Washington, DC: The National Academies Press, 2014.

13. Childers JW, Back AL, Tulskey JA, Arnold RM. REMAP: a framework for goals of care conversations. *J Oncol Pract* 2017;13:e844–e850.

14. Goelz T1, Wuensch A, Stubenrauch S, et al. Specific training program improves oncologists' palliative care communication skills in a randomized controlled trial. *J Clin Oncol* 2011;29:3402–3407.

15. Stein T, Frankel RM, Krupat E. Enhancing clinician communication skills in a large healthcare organization: a longitudinal case study. *Patient Educ Couns* 2005;58:4–12.

16. Boissy A, Windover AK, Bokar D, et al. Communication skills training for physicians improves patient satisfaction. *J Gen Intern Med* 2016;31:755–761.

17. Davis DA, Thomson MA, Oxman AD, Haynes RB. Changing physician performance. A systematic review of the effect of continuing medical education strategies. *JAMA* 1995;274:700–705.

18. Proctor E, Silmere H, Raghavan R, et al. Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. *Adm Policy Ment Health* 2011;38:65–76.

19. Spagnoletti C, Merriam S, Milberg L, Arnold RM. Teaching medical educators how to teach communication skills: over a decade of experience. *SMJ* 2018;111:246–253.

20. Gawande A. Personal best. *The New Yorker*. October 3, 2011. Available from: <https://www.newyorker.com/magazine/2011/10/03/personal-best>. Accessed April 25, 2018.

21. Sinuff T, Muscedere J, Adhikari NK, et al. Knowledge translation interventions for critically ill patients: a systematic review. *Crit Care Med* 2013;41:2627–2640.

22. Johnson MJ, May CR. Promoting professional behaviour change in healthcare: what interventions work, and why? A theory-led overview of systematic reviews. *BMJ Open* 2015;5:e008592.

23. Flodgren G, Eccles MP, Shepperd S, Scott A, Parmelli E, Beyer FR. An overview of reviews evaluating the effectiveness of financial incentives in changing healthcare professional behaviours and patient outcomes. *Cochrane Database Syst Rev* 2011;CD009255.

24. Morrison RS, Dietrich J, Ladwig S, et al. Palliative care consultation teams cut hospital costs for Medicaid beneficiaries. *Health Aff (Millwood)* 2011;30:454–463.

25. Penrod JD, Deb P, Dellenbaugh C, et al. Hospital-based palliative care consultation: effects on hospital cost. *J Palliat Med* 2010;13:973–979.

26. Khandelwal N, Kross EK, Engelberg RA, Coe NB, Long AC, Curtis JR. Estimating the effect of palliative care interventions and advance care planning on ICU utilization: a systematic review. *Crit Care Med* 2015;43:1102–1111.

27. Kalet AL, Gillespie CC, Schwartz MD, et al. New measures to establish the evidence base for medical education: identifying educationally sensitive patient outcomes. *Acad Med* 2010;85:844–851.