Interprofessional Communication Skills Training for Serious Illness: Evaluation of a Small-Group, Simulated Patient Intervention

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Abstract

Background: Communication with patients and families is an essential component of high-quality care in serious illness. Small-group skills training can result in new communication behaviors, but past studies have used facilitators with extensive experience, raising concerns this is not scalable.

Objective: The objective was to investigate the effect of an experiential communication skills building workshop (Codetalk), led by newly trained facilitators, on internal medicine trainees' and nurse practitioner students' ability to communicate bad news and express empathy.

Design: Trainees participated in Codetalk; skill improvement was evaluated through pre- and post- standardized patient (SP) encounters.

Setting and subjects: The subjects were internal medicine residents and nurse practitioner students at two universities.

Intervention and measurements: The study was carried out in anywhere from five to eight half-day sessions over a month. The first and last sessions included audiotaped trainee SP encounters coded for effective communication behaviors. The primary outcome was change in communication scores from pre-intervention to post-intervention. We also measured trainee characteristics to identify predictors of performance and change in performance over time.

Results: We enrolled 145 trainees who completed pre- and post-intervention SP interviews—with participation rates of 52% for physicians and 14% for nurse practitioners. Trainees' scores improved in 8 of 11 coded behaviors ($p < 0.05$). The only significant predictors of performance were having participated in the intervention ($p < 0.001$) and study site ($p < 0.003$). The only predictor of improvement in performance over time was participating in the intervention ($p < 0.001$).

Conclusions: A communication skills intervention using newly trained facilitators was associated with improvement in trainees' skills in giving bad news and expressing empathy. Improvement in communication skills did not vary by trainee characteristics.

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Introduction

Poor communication between clinicians and patients with serious illness is associated with psychosocial distress and unwanted treatment.¹ In contrast, good patient-clinician communication can result in patients experiencing better emotional health, improvement in symptoms, increased quality of life, and reduced intensity of treatment at the end of life.²⁻⁵

Despite the importance of communication, physician and nurse practitioner communication skills training is often conducted using methods, such as lectures, that have not been shown to result in behavior change. In addition, role modeling is infrequent and trainees report that they frequently communicate bad news to patients with little training, supervision, or feedback. For example, a survey of medical residents at two universities revealed that although 73% of medical residents first communicated bad news to a patient as a medical student or intern, a more senior trainee was available in only 11% of the cases and an attending physician was present in only 5%.⁶ Similarly, training for nurse practitioners is also suboptimal.^{7,8}

Consensus guidelines for communicating bad news were released in 1995 and included the importance of assessing patients' understanding of their illness and encouraging patients to express their feelings.⁹ These and additional recommendations guiding best practices¹⁰⁻¹² for communicating bad news to patients formed the basis of a four-day workshop, Oncotalk, for medical oncology fellows.¹³ This workshop, structured around small-group skill practice with simulated patients, resulted in significant improvement in participants' ability to deliver bad news. This is one of a small number of studies that have investigated interventions that teach clinicians how to discuss bad news and transitions to palliative care.¹³⁻¹⁷ A systematic review of communication skills interventions noted the effectiveness of small-group interventions but raised a concern about whether the interventions studied were dependent on a small group of experienced facilitators.¹⁸

In this report we examine changes in trainee communication skills in a pre-post study design. Facilitators without prior experience teaching using simulated patients were trained using a manualized communication skills building workshop. This report uses data from a randomized trial of this interprofessional workshop, Codetalk, designed for internal medicine residents and nurse practitioner students. As part of this study, trainees randomized to the Codetalk intervention completed pre-intervention and post-intervention evaluative encounters with standardized patients (SPs) in which participants were asked to communicate bad news to the patient. The primary objective of this report is to evaluate the change associated with the workshop in learners' skills giving bad news and expressing verbal empathy. We also addressed two secondary questions: are there trainee characteristics that predict: (1) communication performance and (2) improvement in communication performance after the workshop?

Methods

Participants

Overview. We report a before-after study of an interprofessional, simulation-based workshop (Codetalk) designed to

teach communication skills for serious illness to internal medicine residents, internal medicine subspecialty fellows, and nurse practitioner students recruited from the University of Washington (UW) and Medical University of South Carolina (MUSC). The current report uses only data from the trainees randomized to the intervention group and examines performance with SPs before and after the workshop. Participants randomized to the control group did not participate in the workshop or the SP evaluations and are therefore not included in this report.

Interprofessional participants. Eligible trainees were contacted prior to the start of the academic year by mail or e-mail and were provided materials that included an explanation of the study and a consent form. Residents were offered participation as a clinic elective during their clinic block, fellows were offered participation that was in addition to their standard curriculum, and nurse practitioner students were offered participation with elective course credit. All internal medicine residents were eligible as were fellows in selected subspecialties: pulmonary and critical care, oncology, geriatrics, palliative medicine, and nephrology. Nurse practitioners or nurse practitioner students were eligible if they were in or recently completed training programs that included care for adult patients with acute life-threatening or chronic illnesses.

Intervention participant experience. The course structure was adapted from a residential four-day workshop that showed efficacy in improving communication skills behaviors for oncology fellows (Oncotalk).^{13,19} Each site's Codetalk workshop was composed of eight four-hour sessions (twice per week for a month) led by two faculty facilitators, one of whom was a physician and the other a nurse or nurse practitioner. A detailed content outline and facilitator guidelines were provided for each session and were structured with the following components: (1) a brief didactic overview that included a demonstration roleplay by the faculty facilitators, (2) skills practice using a simulated patient (or family member), and (3) reflective discussions of how it felt to be in these situations. Each session had a specific topic, taught in a specific sequence, including building rapport; giving bad news; talking about goals of care and advance directives; interdisciplinary conflict; conducting a family conference; discussions of do-not-resuscitate status and transitions to hospice; and bereavement support.^{13,20} Skills practice was designed around two patient stories that unfolded in episodes at each session. The episodes were sequential, starting with diagnosis of serious illness (recurrent cancer or severe COPD) and ending with death. In this study the simulated patients and family members used at each teaching session were actors trained to portray specific roles and to adjust the difficulty based on the communication skills of the trainee. In contrast, the SPs used for evaluating behaviors were trained to behave in a standardized way, so that trainees' empathic responses to standardized emotional cues could be measured.

Facilitator training. The facilitators were recruited from physician and nurse faculty at the institutions and, except for one investigator, did not have prior training or experience using simulated patients or roleplay to teach communication skills. Initial training involved a two-day in-person course (run by AB and KE) that included an overview of the

manualized facilitation approach for working with simulated patients, facilitation practice, and reflection. The facilitation approach included a step-by-step series of facilitator behaviors for skills practice sessions. Each facilitator received feedback on their facilitator skills for the first two sessions they taught. Facilitators also participated in a yearly half-day refresher course.

Measures

Outcomes. To provide an evaluation of the intervention's effectiveness, trainees completed an interview with an SP as part of the first and last workshop sessions. Two SP scenarios were created for evaluation. Each trainee encountered one of the scenarios before and the other scenario after Codetalk, with random allocation as to which case was first. SPs were trained at both sites through university programs for SPs and received additional training from study investigators that included self-study of a script, rehearsal with investigators for four hours initially, and one hour of refresher training each year.

All SP sessions were digitally recorded and analyzed by trained coders who assigned scores based on specific communication behaviors taught during the Codetalk workshops. These behaviors were represented by the acronyms *SPIKES* and *NURSE*. *SPIKES* is a six-step protocol for communicating bad news: (1) setting, (2) assessing the patient's perception of his or her illness, (3) obtaining an invitation from the patient to disclose information, (4) giving knowledge and information, (5) addressing emotion about the bad news with empathic responses, and (6) summary of the next steps.²¹ Two of these steps, setting and summary, were not part of the SP exchange and were not included in the analyses. There were a total of six coded behaviors under the PIKE portion of the *SPIKES* protocol. *NURSE* is an acronym for verbal empathic expressions^{12,22} and includes the following: (1) naming emotion, (2) expressing understanding of a patient's feelings or situation, (3) showing respect or praise for the patient, (4) articulating support for the patient, and (5) exploring the patient's emotional state. Each behavior was coded as present if demonstrated one or more times.

The coders were each trained for 30 hours over a 2-week period. The coders were blinded to whether the encounter occurred pre- or post-intervention. Four independent coders analyzed audiorecordings; 20% of the recordings were double-coded to assess interrater reliability. Cohen's Kappa statistic was used to calculate interrater reliability for each segment. Kappa statistics for communication behaviors ranged from strong (0.62, "named an emotion") to near perfect agreement (1.0, "invitation," "showed respect for or praise of patient," "assured patient of support throughout the disease," and "waited 10 seconds after bad news").

For each of the research questions, two scores were used as outcomes: (1) count of *SPIKES* elements present (potential range 0 to 6); and (2) count of *NURSE* elements present (potential range 0 to 5). In addition, changes in *SPIKES* and *NURSE* scores were computed as the post-intervention communication score minus the pre-intervention communication score.

Predictors. Trainees completed an online questionnaire shortly after enrollment that included six items to assess trainees' experience with palliative and end-of-life care.^{23–25} Based on *a priori* hypotheses about experiences that would

contribute to readiness to learn end-of-life communication skills, two experience items were selected from the questionnaire as predictors of interest: (1) the number of patients to whom the trainee had personally communicated bad news (ordinal scale: none, 1–3, 4–9, 10 or more); and (2) the number of times during training the trainee had observed a more experienced clinician discuss end-of-life treatment options with a patient (ordinal scale: never, 1–3 times, 4 or more times). Additional predictors include type of trainee (physician or nurse practitioner), site, and postgraduate training year.

Potential confounders. All predictors of interest were evaluated for their role as potential confounders of the associations between other predictors of interest and the outcomes. Four additional variables were tested as possible confounders: trainees' (1) age, (2) baseline report of the number of times during training they had personally discussed end-of-life treatment options with a patient, (3) satisfaction at baseline with end-of-life care delivered to patients during the previous year, and (4) the extent to which baseline attitude facilitated provision of high-quality end-of-life care.

Analyses

We hypothesized that after the workshop trainees would show significant improvement in skills related to communicating bad news (*SPIKES*, $N=6$ skills) and expressing empathy (*NURSE*, $N=5$ skills). McNemar's test was used to test for significant differences between baseline and post-intervention assessments on each skill.

Regression models were used to assess three questions about the composite *SPIKES* and *NURSE* scores: (1) Did scores improve between pre-intervention and post-intervention? (2) Were any trainee characteristics or training experiences associated with *overall performance* on communication skills incorporating both assessment points? (3) Were any trainee characteristics or training experiences associated with *change in performance* after Codetalk?

In the regression models for the first two questions, the unit of analysis was an individual SP session. Each of the models for these first two questions were examined with two outcomes: the *SPIKES* and *NURSE* composite scores. We clustered under each trainee to account for the fact that each trainee could contribute two observations and that two observations from a single trainee were not independent. Each record included the trainee's *SPIKES* and *NURSE* scores at a single time point, an indicator for which time point the record represented, and measures for each of the trainee characteristics and baseline experience levels. We then built clustered Poisson regression models, estimating parameters with restricted maximum likelihood. For the first question the outcome was the *SPIKES* or *NURSE* score and the predictor of interest was pre- versus posttraining. For the second question the outcomes were the same, but the predictors of interest were the trainee characteristics. For both questions and for both outcomes of interest (*SPIKES* and *NURSE* scores), we built separate models for each predictor of interest, which included the predictor of interest and any variables that served as actual confounders of the association between the predictor and outcome. A variable was identified as an actual confounder if its addition to the model changed the coefficient for the predictor of interest by more than 20%.

The regression model for the third question involved unclustered data, with analyses based on one record per trainee. The record included change in scores for the SPIKES or NURSE outcomes (post-intervention score minus pre-intervention score), along with predictors measuring the trainee's characteristics and training experiences at baseline. So that the intercept in these unclustered models would reflect the amount of change over time experienced by the "average" trainee, we centered each predictor on its sample mean. For the outcomes, we assessed the six coded behaviors for the SPIKES protocol and the five behaviors for the NURSE protocol. The pre-post change in score, which could range from -6 to +6 (for SPIKES) or from -5 to +5 (for NURSE), was modeled as a linear outcome with coefficients estimated with full maximum likelihood.

We used SPSS 19.0 (SPSS Inc., Chicago, IL) for the McNemar's tests and Mplus version 7 (Los Angeles, CA) for the regression models. Significance was set at $p \leq 0.05$.

Results

We identified and approached a total of 1068 eligible trainees, of whom 477 (45%) agreed to participate. Participation rates were higher among physicians (with 58% consenting and 52% completing Codetalk) than nurse practitioner students (with 21% consenting and 14% completing Code-talk). Of the consenting trainees, all who did not participate withdrew as a result of scheduling conflicts for the course ($n=71$). Of the 406 trainees who enrolled and completed the study, 184 (45%) were randomized to the intervention. Of these, 145 (79%) completed audiorecorded interviews both pre- and post-intervention. The trainees' characteristics are shown in Table 1.

Table 2 shows trainees' scores on the SPIKES and NURSE items before and after the intervention. Trainees made statistically significant gains in four of the six coded behaviors: (1) assessing the patient's understanding of their illness (Perception, $p=0.001$); (2) requesting permission from the patient before giving bad news (Invitation, $p<0.001$); (3) giving the patient time to consider the bad news with a 10 second pause (Emotion, $p=0.002$); and (4) providing an empathic statement as the first clinician statement following the bad news (Emotion, $p=0.001$). Trainees did not improve significantly on two SPIKES skills: (1) using the word "cancer" when communicating bad news, where baseline and post-training performance were high (Knowledge, $p=0.112$); and (2) asking about the patients' emotional feelings related to bad news, where baseline and posttraining performance were low (Emotion, $p=0.280$).

Of the five skills represented by the acronym NURSE, trainees improved significantly on four: (1) naming an emotion expressed by the patient (Naming, $p=0.046$); (2) showing respect for or praising the patient (Respecting, $p=0.001$); (3) reassuring the patient that the clinician will support them throughout their illness (Supporting, $p<0.001$); and (4) asking about the patient's emotions at times other than directly related to the delivery of bad news (Exploring, $p<0.001$). Trainees did not significantly improve in expression of understanding of an emotion (Understanding, $p=0.735$), although baseline and posttraining performance were high.

Predictors of better performance communicating bad news (SPIKES) and expressing empathy (NURSE) are shown in

TABLE 1. TRAINEE CHARACTERISTICS

Characteristic	Valid n ^a	Statistic
Recruited at MUSC, % (n)	145	37.2 (52)
Trainee's age, median (range)	133	28.6 (22.9, 54.9)
Trainee was female, % (n)	145	57.9 (84)
Trainee was racial/ethnic minority, % (n)	143	21.7 (31)
Trainee type, % (n)	145	
Nurse practitioner		11.7 (17)
Physician		88.3 (128)
Resident		78.6 (114)
Fellow		9.7 (14)
Oncology/hematology		2.8 (4)
Palliative care		2.8 (4)
Pulmonary		4.1 (6)
Postgraduate training year, mean (SD)	142	1.9 (1.4)
Patients to whom trainee had given bad news, median category (range) ^b		
Baseline	137	1 (0, 3)
Follow-up	110	2 (0, 3)
Number of times trainee observed experienced clinician discussing end-of-life treatment, median category (range) ^c		
Baseline	137	2 (0, 2)
Follow-up	110	2 (0, 2)
Trainee's satisfaction with care provided to patients who died in the past year, mean (SD) ^d		
Baseline	136	6.9 (1.4)
Follow-up	110	7.2 (1.2)
Extent attitude toward end-of-life care would likely facilitate high-quality care, median category (range) ^e		
Baseline	137	2 (1, 3)
Follow-up	110	2 (1, 3)

^aBased on the sample of 145 trainees who were evaluated on conversations with SPs at both baseline and end of workshop; of these 145 trainees, 137 completed baseline surveys.

^bCodes for this ordinal variable: 0 (none), 1 (1-3), 2 (4-9), 3 (10+).

^cCodes for this ordinal variable: 0 (never), 1 (1-3 times), 2 (4+ times).

^dCodes ranged from 0 (not at all satisfied) to 10 (completely satisfied).

^eScores on this nine-item composite measure could range from 0 (least facilitative) to 3 (most facilitative).

SP, standardized patient.

Table 3. Of the seven potential predictors, two were significantly associated with higher scores for both SPIKES and NURSE: time—pre- versus post-intervention—and site—University of Washington (UW) versus Medical University of South Carolina (MUSC). Scores on both SPIKES and NURSE were higher after the workshop than before ($p<0.001$) and trainees at UW had higher pre- and post-intervention scores for both SPIKES and NURSE than did trainees at MUSC ($p<0.001$ for SPIKES, $p=0.003$ for NURSE). There was no significant association with sex, discipline (physician or nurse practitioner), postgraduate training year, prior experience communicating bad news, or prior experience observing end-of-life discussions.

The analysis of change in scores (see Table 4) confirms the overall improvement in SPIKES and NURSE scores over time ($p<0.001$). There were no significant associations between change in score and any of the other hypothesized predictors.

TABLE 2. COMPARISON OF SKILLS DEMONSTRATED IN CONVERSATIONS WITH STANDARDIZED PATIENTS BEFORE AND AFTER A SKILLS BUILDING WORKSHOP

Skill set		n pairs ^a	Baseline % (n) with skill	Postworkshop % (n) with skill	Change	P ^b
SPIKES	Assessed patient's <u>P</u> erception or understanding of the illness	145	22.8 (33)	39.3 (57)	16.6	0.001
	Asked patient if it was a good time to talk (<u>I</u> nvitation)	145	4.8 (7)	31.0 (45)	26.2	<0.001
	Used word "cancer" when giving bad news (<u>K</u> nowledge)	145	76.6 (111)	84.8 (123)	8.3	0.112
	Waited 10+ seconds after delivering bad news (<u>K</u> nowledge)	144	65.3 (94)	79.9 (115)	14.6	0.002
	Made <u>E</u> mpathic statement immediately after giving bad news	142	49.3 (70)	69.0 (98)	19.7	0.001
	Asked questions about patient's <u>E</u> motions related to bad news	144	18.1 (26)	23.6 (34)	5.6	0.280
NURSE	Named an emotion	145	31.7 (46)	42.1 (61)	10.3	0.046
	Expressed <u>U</u> nderstanding of an emotion	145	82.8 (120)	80.7 (117)	-2.1	0.735
	Showed <u>R</u> espect for, or praise of, patient	145	3.4 (5)	14.5 (21)	11.0	0.001
	Assured patient of Support throughout disease process	145	26.9 (39)	50.3 (73)	23.4	<0.001
	Asked questions about patient's <u>E</u> motions (other than after bad news)	145	48.3 (70)	71.0 (103)	22.8	<0.001

^aNumber of cases with assessment at both the pre- and postworkshop session.

^bP-values were based on McNemar's tests for differences between the baseline and postworkshop session.

TABLE 3. ASSOCIATIONS OF SPIKES AND NURSE OUTCOMES WITH PREDICTORS OF INTEREST^a

Outcome	Predictors	n ^b	beta	P	95% CI
SPIKES score ^c	Time point ^d	287/145	0.318	<0.001	0.223, 0.413
	Site ^e	287/145	-0.210	<0.001	-0.310, -0.111
	Gender ^f	289/145	0.004	0.932	-0.092, 0.100
	Doctor or nurse ^g	245/141	0.034	0.698	-0.139, 0.208
	Postgraduate training year ^h	241/139	-0.001	0.959	-0.038, 0.036
	Experience giving bad news ⁱ	244/142	-0.015	0.600	-0.071, 0.041
	Experience observing end-of-life discussions ^j	243/141	-0.064	0.260	-0.176, 0.047
NURSE score ^{c,k}	Time point ^d	290/145	0.292	<0.001	0.197, 0.387
	Site ^e	290/145	-0.194	0.003	-0.320, -0.068
	Gender ^l	247/142	0.055	0.390	-0.070, 0.179
	Doctor or nurse ^m	246/142	-0.038	0.735	-0.258, 0.182
	Postgraduate training year ⁿ	226/130	0.003	0.888	-0.045, 0.052
	Experience giving bad news ^o	246/142	0.028	0.406	-0.038, 0.094
	Experience observing end-of-life discussions ^p	246/142	0.007	0.911	-0.118, 0.132

^aClustered Poisson regression models using a logarithmic link function and based on a dataset containing data collected from 145 trainees for whom encounters with SPs were taped at both the beginning and end of the workshop series. Separate baseline and end-of-workshop assessments were clustered under trainee. Parameters were estimated with restricted maximum likelihood. The estimates for each row are based on a model that included the predictor shown on the row, along with any variables that represented actual confounders of the association between that predictor and the outcome.

^bTotal valid responses / number of trainee clusters.

^cCount (0-6) of the number of SPIKES elements that were detected one or more times during the assessment.

^dTime point coded 0 (baseline) or 1 (end of workshop). There were no confounders of this association.

^eThere were no confounders of this association.

^fModel adjusted for confounders: site, doctor versus nurse, and a latent variable measuring attitude that facilitated providing high-quality end-of-life care.

^gModel adjusted for confounders: site, gender, experience giving bad news, experience discussing end-of-life care, experience observing end-of-life discussions, satisfaction with care provided, latent attitude variable.

^hAdjusted for confounders: site, experience delivering bad news, experience discussing end-of-life care, latent attitude variable.

ⁱAdjusted for confounders: time point, experience discussing end-of-life care.

^jAdjusted for confounders: site, time point, gender, experience giving bad news, experience discussing end-of-life care, satisfaction with care provided.

^kCount (0-5) of the number of NURSE elements that were detected one or more times during the assessment.

^lAdjusted for confounders: site, doctor versus nurse, experience giving bad news, latent attitude variable.

^mAdjusted for confounders: site, doctor versus nurse, experience giving bad news, experience discussing end-of-life care.

ⁿAdjusted for confounders: site, age, experience giving bad news, experience discussing end-of-life care, latent attitude variable.

^oAdjusted for confounders: time point, experience discussing end-of-life care.

^pAdjusted for confounders: site, time point, doctor versus nurse, experience giving bad news, experience discussing end-of-life care.

SP, standardized patient.

TABLE 4. ASSOCIATIONS OF CHANGES IN SPIKES AND NURSE OUTCOMES WITH PREDICTORS OF INTEREST^a

Outcome	Predictors	n ^b	beta	P	95% CI
SPIKES change score ^c	(Average change, baseline to end of workshop) ^d	142	0.908	<0.001	0.647, 1.170
	Site ^e	142	-0.492	0.073	-1.030, 0.045
	Gender ^e	142	0.457	0.089	-0.070, 0.985
	Doctor or nurse ^f	133	0.332	0.483	-0.595, 1.259
	Postgraduate training year ^g	124	0.087	0.550	-0.199, 0.373
	Experience giving bad news ^h	133	0.013	0.937	-0.301, 0.326
	Experience observing end-of-life discussions ⁱ	132	0.081	0.769	-0.457, 0.618
NURSE change score ^j	(Average change, baseline to end of workshop) ^d	145	0.655	<0.001	0.447, 0.863
	Site ^e	145	0.225	0.304	-0.204, 0.653
	Gender ^k	145	-0.219	0.318	-0.649, 0.211
	Doctor or nurse ^l	136	0.725	0.060	-0.031, 1.481
	Postgraduate training year ^g	127	-0.015	0.899	-0.242, 0.212
	Experience giving bad news ^m	127	-0.095	0.587	-0.436, 0.247
	Experience observing end-of-life discussions ^k	137	0.384	0.057	-0.011, 0.780

^aUnclustered robust linear regression models using an identity link function and based on a dataset containing data collected from 145 trainees for whom encounters with SPs were taped at both the beginning and end of the workshop series. Parameters were estimated with full maximum likelihood. The estimates for each row are based on a model that included the predictor shown for the row, along with any variables that represented actual confounders of the association between that predictor and the outcome.

^bNumber of trainees with valid responses on the predictor, any confounders, and outcome (the latter requiring valid codes at both baseline and end of workshop).

^cInteger change score: -6 to +6, computed as the end-of-workshop SPIKES score minus the baseline score.

^dThis is the intercept from an unconditional model (i.e., a model with no predictors); the significantly positive intercept indicates significant positive average change over all trainees between the two time points.

^eThere were no confounders of this association.

^fModel adjusted for confounders: site, gender, experience discussing end-of-life care.

^gModel adjusted for confounders: site, age, experience giving bad news, experience discussing end-of-life care.

^hModel adjusted for confounder: experience discussing end-of-life care.

ⁱModel adjusted for confounders: site, doctor versus nurse, experience discussing end-of-life care, satisfaction with care provided.

^jInteger change score: -5 to +5, computed as the end-of-workshop NURSE score minus the baseline score.

^kModel adjusted for confounder: doctor versus nurse.

^lModel adjusted for confounders: gender, experience discussing end-of-life care, experience observing end-of-life discussions.

^mModel adjusted for confounders: site, gender, doctor versus nurse, age, postgraduate training year, experience discussing end-of-life care, experience observing end-of-life discussions.

SP, standardized patient.

Discussion

The principal finding of this study is that small-group communication skills training results in measurable changes in communication skills when conducted by facilitators who have received manualized training. Notably, the small groups were composed of interprofessional trainees, and the sessions were designed to fit into a residency program clinic elective for residents or the quarter schedule for nurse practitioners. Interestingly, there were no associations between improvement and participant characteristics—including experience—suggesting this communication skills training was effective across the disciplines and levels of experience.

Similar to findings from Oncotalk, our findings showed that significant improvement in trainees' ability to communicate bad news and express empathy occurred by the end of the Codetalk workshop, as assessed by SP evaluation.¹³ Previously, a randomized trial of a skill building workshop was also shown to improve the communication skills of oncologists in clinical practice, as assessed by expert evaluation of videotapes with actual patients.¹⁴ Interestingly, this previous trial showed no significant improvement associated with personalized written feedback to oncologists based on videotapes of their encounters with actual patients. These studies suggest that skill practice in a simulation setting is effective at

improving clinicians' communication skills for giving bad news and talking about end-of-life care.

Three specific skills did not improve in our study, two from the SPIKES set of behaviors and one from the NURSE set of behaviors: using the word "cancer" when giving a cancer diagnosis, expressing understanding for emotion, and exploring emotions related to bad news. The first two skills were performed by 77% and 83%, respectively, of trainees prior to the intervention and may have had a ceiling effect limiting our ability to show improvement. The third skill, asking questions about patients' emotions related to bad news, was performed by a minority of trainees and also did not improve, suggesting that this was a more difficult task than making an empathic statement as the next statement after giving bad news. Prior studies also suggest there are particular challenges to increasing trainees' skill in responding to affective aspects of communicating bad news.²⁶

Two other recent studies have reported similar difficulties with improving trainees' ability to explore patient emotions in response to bad news.^{15,16} One of these was a randomized trial¹⁵ and the other was a training program for end-of-life communication with physician trainees in Australia.¹⁶ These findings suggest that skills regarding responding to emotions may be difficult to acquire, difficult to teach, or represent a different skill set than the other skills measured.¹⁶ Overall,

however, there was significant positive change over time in the two composite skills measures in this study (SPIKES and NURSE).

A secondary question in this study was to identify predictors of performance on SPIKES and NURSE scores. The only characteristics that were associated with performance were having participated in the intervention and study site. The trainees at UW had higher scores on the pre- and post-intervention evaluations. Interestingly, we previously found that trainees at MUSC received similar scores on patient ratings of communication and higher ratings on discussing spirituality than trainees at UW.²⁷ This suggests that performance varies by site, but site performance may vary depending on the task and the method of evaluation. However, we did not see a difference in performance associated with trainee characteristics such as sex, discipline (physician or nurse practitioner), year of postgraduate training, or experience providing or observing end-of-life care.

Another secondary question was to identify predictors of improvement in performance associated with the intervention, and we hypothesized that increased postgraduate year of training and prior experience with end-of-life care would make the Codetalk workshop more salient and provide trainees with motivation for learning new skills.²⁸ We were not able to find any significant predictors of improvement other than participating in the intervention. Year of training did not have any impact on improvement in SPIKES or NURSE scores, suggesting that the intervention was equally successful across the range from internship to fellowship and throughout nurse practitioner training. We also found no association between improvement in scores and participants' baseline experience with end-of-life care. It is possible that these associations exist but that our study was not powered to identify them or that the range of clinical experiences represented by these trainees was not varied enough to detect an association. In addition, the discipline of the trainee (physician or nurse practitioner) was not significantly associated with improvement on SPIKES or NURSE scores, suggesting that this intervention is useful for both disciplines. In addition, pre-post improvement did not differ by training site. The intervention was developed at one site (UW) and exported to the other site (MUSC) and this finding suggests that the intervention can be exported successfully.

Our study has several limitations. First, SPs were used to evaluate clinician skill and may not approximate a true patient-clinician encounter. However, practice with SPs has been shown to result in better communication skills than practice with peers,²⁹ and SPs have been shown to provide valid assessments of clinical skill.^{30,31} Second, patient-clinician communication includes nonverbal as well as verbal communication.³² Nonverbal communication was not addressed in our evaluation. However, a recent meta-analysis did not identify any nonverbal behaviors associated with clinically relevant outcomes or patient satisfaction.³³ Third, the SPIKES and NURSE protocols have not yet been shown to affect patient ratings of care, although effective communication improves patient and family psychological symptoms,^{3,34} and the NURSE protocol has been used in an intervention shown to improve patients' ratings of trust in their oncologists.³⁵ In addition, our approach to documenting whether each of these tasks was performed doesn't ad-

dress the quality with which they were performed. Although quality assessment may be difficult in this context, it is an important area for future research. Fourth, since there was no control group for the SP evaluation, it is possible that the improvements seen were due to experience with the pre-intervention SPs. However, a different SP scenario was used for each trainee pre- and post-intervention, and both of these scenarios were different from the SP scenarios used in teaching sessions. Finally, this evaluation is a before-and-after study, therefore cannot determine that the intervention caused improvement, but only that trainees improved over the time period during which the intervention occurred. However, since we found no association with year of training, a learning effect from one month of usual training seems less likely and is consistent with other studies indicating that clinician communication skills do not improve with time alone.¹⁴

In conclusion, these results suggest that Codetalk was an effective communication skills intervention, improving trainees' skills in discussing bad news and expressing empathy as evaluated by SP encounters. The intervention was successfully implemented by newly trained facilitators at two distant sites. Further evaluation to assess the effects of Codetalk on patient and family outcomes is in progress.

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