Explicit Training in Systematic Communication Strategies: A Pilot Study Exploring the Incorporation of Communication Tools by First-Year Residents in Simulation and in Clinical Practice

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ABSTRACT

OBJECTIVES: Educational approaches for training physicians in clinical communications vary, and whether physicians apply the communication skills they learn or find them useful in the clinic is not well known. The aim of this study was to determine how first-year residents who received explicit instruction in 7 communication strategies would apply them in a simulation exercise and in clinical practice.

METHODS: First-year Internal Medicine residents at an urban teaching hospital received instruction in 7 systematic communication strategies: Ask-Tell-Ask, Teach-back, open-ended questioning, NURSE, open body language, pausing, and plain language. Residents were evaluated on their use of specific communication behaviors associated with the 7 strategies during a simulation exercise of disclosing a medical error to a standardized patient. Control group residents who did the simulation before attending the training program and training group residents who did the simulation after the training were compared. Residents were queried 6 months after the training program on their use of communication strategies during clinical practice.

RESULTS: A total of 27 residents participated ($n = 13$ control group; $n = 14$ training group). The training group performed behaviors for "establishing patient understanding" significantly more often than the control group. Both groups used non-verbal communication and behaviors for addressing patient emotions at similar levels. Of the 24 residents who responded to the 6-month follow-up questionnaire, 24 (100%) reported using Ask-Tell-Ask, open-ended questioning, and Teach-back, and 22 (92%) reported using NURSE statements and non-verbal communication. Most respondents reported using the strategies in clinical practice often or very often (79%) and found the strategies useful or very useful (96%).

CONCLUSION: Providing explicit instruction in systematic communication strategies, particularly those focused on establishing patient understanding, may be an efficient approach for helping early career physicians develop effective communication skills that can be readily implemented during clinical training and practice.

KEYWORDS: health communication, Teach-back communication, physician–patient relations, education, medical, graduate, internship and resident/standards

Introduction

Effective communication between physicians and patients is an essential aspect of high-quality health care, and numerous studies have shown that how physicians communicate with patients has a profound effect on patient–physician interactions.[1,2] For example, one study showed that when physicians used patient-centered communication skills, their patients were more satisfied with their care, adhered to care advice more frequently, and had less contentious interactions with the physician.[3] In another study, women with diabetes who reported receiving care from physicians who used patient-centered communication showed better adherence to their diabetes management care plans.[4] However, although the importance of clinical communications is generally understood, the best educational approaches to teaching clinical communications have not been universally agreed upon. Nonetheless, the ACGME (Accreditation Council for Graduate Medical Education) common program requirements mandate that physician trainees gain proficiency in communicating effectively with patients and patients' families,[5] underscoring the need for effective instructional programs to help physicians develop these non-technical skills during medical training.

Clinical communications are challenging. Physicians must communicate with patients on multiple levels, often needing to explain difficult medical concepts, give complicated directions, or convey distressing news. Becoming an effective clinical communicator also takes time and is a lifelong process that can be facilitated through both explicit instruction and on-the-job experience. Thus, a wide range of approaches, frameworks, and curriculums have been developed to help health

care professionals at any career stage learn a range of communication strategies.[6–13] For instance, surgery residents who took an 8-module training that covered empathic communication, end-of-life conversations, bad news delivery, and medical error disclosure reported positive learning experiences and increased confidence—results that correlated with patient perceptions of improved surgeon communication.[13] And a randomized trial that evaluated a coaching intervention in which coaches taught 5 different communication skills to cardiologists revealed that those who received coaching had improved their ability to express empathy and elicit questions from patients.[9] Overall, these studies and others illustrate that communication skills can be improved through explicit instruction.[14] But one scoping review that assessed 151 articles on communication skills training programs concluded that many programs lacked curriculum structure, focus, and standardization, and the authors recommended a more rigorous approach to program development.[15] Experiential methods that incorporate skill-building practice alongside quality feedback may be a particularly effective educational strategy to help trainees learn good communication behaviors,[16] and simulation exercises are a commonly employed experiential learning approach in which trainees can practice and be evaluated on communication skills in simulated encounters with standardized patients.[17–19] Additionally, systematic communication tools such as SPIKES (setting, perception, invitation, knowledge, empathy, summarize), Ask-Tell-Ask, Teach-back, and others not only provide practical communication strategies, but also allow for targeted evaluation.[20–22] However, training programs may be most effective when they are tailored toward the unique communications needs inherent to different medical disciplines and the unique environments within which physicians work.

Therefore, we developed an interactive communications training program within our hospital's mandatory Institutional Curriculum for incoming residents that included instruction in 7 well-established communication strategies and evaluation during a mandatory simulated encounter in which trainees disclosed a fictional medical error to a standardized patient. In this pilot prospective educational intervention study, our goals were to assess whether trainees would apply the learned communication tools during simulated patient encounters and investigate which behaviors trainees needed explicit instruction in the most. We hypothesized that trainees who received explicit training in a range of practical communication strategies would perform specific communication behaviors during simulated patient encounters more often than those who had not received training. Our secondary aims were to assess whether trainees would incorporate the communication strategies into their clinical practice and determine their comfort level in communicating with patients and disclosing medical errors.

Methods

Setting and participants

We conducted a prospective educational intervention study at Henry Ford Hospital, an 877-bed academic hospital in Detroit, Michigan. Inclusion criteria for a convenience sample of participants included the following: incoming physician graduate year one (PGY1) residents (trainees) in the ACGME-accredited Internal Medicine program during the 2021–2022 academic year. Internal Medicine residents attending the Institutional Curriculum who were in a training year other than PGY1 were excluded. The program director explained the study and asked for volunteers at an in-person group meeting in July 2021. A full informed consent form was given to all trainees at the group meeting and all trainees underwent a full consent process. Trainees indicated written electronic consent via SurveyMonkey per the study protocol that was approved by the Henry Ford Health Institutional Review Board (Study #14785; May 24, 2021).

Educational intervention and study approach

The Institutional Curriculum was originally established over a decade ago as a 3-course program focusing on the use of objective structured clinical examinations and based on an initial needs assessment.[23] Since that time, non-physician instructional designers working with clinical faculty have modified and expanded the curriculum in a process that has involved regular, informal gap analyses in the form of simple literature searches and review of scholarly articles on clinical communication skills. Thus, through annual evaluation of the curriculum and ongoing discussion between faculty and instructional designers regarding the merits and drawbacks of numerous pedagogical approaches to teaching clinical communication skills, the current Institutional Curriculum has evolved into a 6-module program that includes 7 structured communication strategies. The curriculum is subject to ongoing quality evaluation, and we expect the program to evolve over time based on experience and new evidence.

All incoming first-year residents were required to attend the Institutional Curriculum comprising 6 two-hour sessions aimed at providing foundational communication skills and establishing behavioral expectations for all trainees per institutional policies. The sessions covered the following 6 topics: informed consent for medical procedures, healthcare inequities, error disclosure, medical handoffs, CLEAR Conversations,[24] and tools for thriving in training. Across the 6 sessions, trainees learned the following 7 structured communication skills: Ask-Tell-Ask, open body language, NURSE, open-ended questioning, pausing, using plain language, and Teach-back.[10,20,21,25–28] During sessions, trainees practiced the communication strategies as they were taught. All sessions included lecture presentations and numerous interactive learning activities, exercises

with feedback, and evaluations for exploring and practicing the skills. The specific educational activities included in the 6 modules for each strategy are outlined in Supplemental File S1. Sessions were facilitated by 2 physician faculty members who had been trained in instructional best practices specifically for this program's curricular content.

Trainees were required to engage in a simulation exercise in which they disclosed a fictional medical error to a standardized patient who had been trained in portraying the specific scenario. The topic of delivering a medical error was prioritized as the central feature of learning because faculty emphasized that many trainees struggle with this in the clinic. Trainees were assigned to 2 groups: those who took the Institutional Curriculum before the simulated encounter (training group) and those who took the Institutional Curriculum after the simulated encounter (control group). Trainees in the control group performed a second simulation exercise after finishing the Institutional Curriculum as part of their required training —this encounter was not evaluated. No randomization strategy was used to determine groups because of the small group size.

During August 2021, the training group took part in the Institutional Curriculum while the control group trainees were assigned to do clinical work in the hospital. Both groups participated in standardized patient encounters in September 2021. The control group then took the Institutional Curriculum starting in late September 2021. The encounters with standardized patients were done via Webex, where the standardized patient was at a remote location (due to COVID-19 restrictions) and the trainee was in an examination room in the Henry Ford Center for Simulation, Education and Research. During the encounters, evaluators viewed the encounters through a one-way mirror and on a separate computer where they could not be seen by trainees or standardized patients. For the control group, evaluators included 2 instructional designers and 1 physician faculty. Because the control simulation events were not considered part of the participants' educational requirements, debriefing was not done after these events. For the training group, evaluators included 5 different physician faculty (not including the 1 who had evaluated the control group), and these evaluators also provided debriefing feedback, since these encounters were part of the participants' educational requirements. Evaluators were a convenience group of instructional designers and faculty physicians who were trained and experienced in facilitating the Institutional Curriculum and had evaluated the simulated encounter previously.

Measures—standardized patient encounter assessment

The Physician Communication Standardized Patient Encounter assessment was created by instructional designers in Graduate Medical Education and physician faculty to identify the communication behaviors that residents used during simulated encounters (Supplemental File S1). The instrument was custom-built to match the specific content of the Institutional Curriculum and consisted of a checklist of communication behaviors, a global rating scale to assess overall quality, and two questions to query trainees' comfort level with patient communication and disclosing errors. Through several rounds of group discussion, instructional designers identified key behaviors associated with the 7 communication tools taught during the Institutional Curriculum and divided them into 3 general domains: showing engagement through non-verbal communication; establishing patient understanding; and addressing patient emotions. Specific communication behaviors were compiled under the 3 domains for the behavior checklist (Supplemental File S2). These behaviors were prioritized to meet several of our institutions specific principles and values, including "own safety and high reliability"; "communicate with empathy and transparency"; and "commitment to compassion, respect, and results." Thus, the behaviors in the checklist emphasized a patient-centered approach to clinical communication. Additionally, our institution is committed to promoting a culture of "coaching," and specific behaviors such as asking open-ended questions, pausing, and asking patients to summarize information are all coach-like behaviors aimed at establishing a meaningful relationship and helping patients be more directly engaged during clinical encounters.[29]

The global rating scale was included as a rapid, simple assessment of overall quality of trainee performance for each of the 3 domains. The assessment tool was reviewed by multiple physicians before use and optimized by instructional designers after several rounds of feedback, discussion between physicians and instructional designers, and revision. The tool was not formally validated; however, inter-rater reliability was determined. Three of the researchers watched a video of a patient encounter, rated it using the instrument, and compared scores. The researchers, all of whom were highly experienced educators and instructional designers, determined through discussion that the scores were similar and the instrument was sufficient for use by educators trained and experienced in facilitating the curriculum. Before the simulation exercises, all raters were again debriefed on how to use the tool.

During simulated encounters, evaluators marked the behaviors that trainees implemented. After the encounter, evaluators used the global rating scales to assess overall performance within the 3 domains on a 5-point Likert-like scale (1 = poor to 5 = excellent). Evaluators then asked trainees two questions about the trainees' comfort level when communicating with patients and when disclosing the error. Trainees rated their comfort level on a 5-point scale (1 = not comfortable at all to 5 = very comfortable).

Measures—physician communication follow-up survey

A Physician Communication Follow-up Survey was created to query trainees on whether they had disclosed any medical

errors and/or implemented specific communication tools within 6 months of completing the Institutional Curriculum (Supplemental File S3). The survey also asked how often the trainees had used the communications skills and how useful they found them. Trainees were once again asked to rate their comfort level in communicating with patients and disclosing medical errors. The survey consisted of 6 questions and was given online via SurveyMonkey through email communication 6 months after the Institutional Curriculum. The simple follow-up survey was created by instructional designers, refined through group discussion, tested through the SurveyMonkey platform, and finalized upon expert consensus.

Statistical analysis

Communication behaviors as assessed with the checklist were described by count and frequency and compared between the two groups with Fisher Exact test or Chi-Square test. Wilcoxon rank sum test was used to compare groups on quality of behavior as assessed by the 5-point global rating scale, described with mean and standard deviation (SD). All other results were assessed descriptively. Analysis was done in SAS 9.4 (SAS Institute Inc., Cary, NC).

Results

Of 36 incoming Internal Medicine residents, 27 (75%) participated in the study: 14 in the training group and 13 in the control group. Overall, trainees who had participated in the Institutional Curriculum before doing a simulated patient encounter performed more behaviors in the domain of "establishing patient understanding" than those who had not yet received training. These included 6 out of 9 behaviors: asking the patient whether they were ready to discuss the diagnosis, providing medical information in chunks, asking open-ended questions, pausing regularly, asking the patient to summarize what was discussed, and reteaching information that the patient seemed not to understand. Within this domain, both the control and training groups used plain language to describe medical information (77% vs 100%), asked the patient to ask questions (77% vs 93%), and asked patients if they needed clarification (46% vs 86%) at similar levels. Interestingly, both groups used all 4 "non-verbal communication" behaviors at similar levels, where at least 85% of the trainees in each group used each behavior. Additionally, both groups used most of the behaviors for "addressing patient emotions" at similar levels, between 62% and 100% within each group. The 2 behaviors in this domain that the training group performed more often were showing support for the patient's needs (100% vs 69%; $P = .041$) and exploring the patient's concerns (100% vs 31%; $P < .001$) (Table 1).

Global rating scale quality assessment of trainees for each of the 3 domains showed that those in the training group received significantly higher quality scores than those who had not yet had the training, with mean quality scores ranging from 1.5 to 2.8 points higher than the control group (all $P < .001$) (Figure 1A). Immediately after the simulated encounter, both groups indicated that they felt comfortable to very comfortable in communicating with patients ($P > 0.99$) and disclosing medical errors ($P = 0.67$), with no difference between groups (Figure 1B).

A total of 24 trainees (89%) responded to the follow-up survey 6 months after having taken the Institutional Curriculum. When asked to rate their level of comfort when communicating with patients over the past 6 months, the mean (SD) response was 4.5 (0.6), indicating a high degree of comfort (Figure 1C). Note that all trainees had taken the Institutional Curriculum at follow-up, so data were not stratified by experimental groups. Of the 24 follow-up respondents, 10 (42%) reported having disclosed an error in the past 6 months, and 2 (8%) reported that they were not sure if they had disclosed any errors. Of the 12 residents who answered the question regarding their comfort level with disclosing medical errors, the mean comfort level was 3.6 (0.7), indicating a mid-level of comfort, slightly higher than responses immediately after the simulated encounters (Figure 1B and C). Overall, residents indicated being quite comfortable communicating with patients and only slightly less comfortable disclosing medical errors.

At 6-month follow-up, 19 of the 24 respondents (79%) reported having used the communications skills that they had learned in the Institutional Curriculum often or very often over the past 6 months (Figure 2A). Most respondents ($n = 23$; 96%) reported that the communication tools they learned in the Institutional Curriculum were useful or very useful (Figure 2B). All 24 respondents (100%) reported having used Ask-Tell-Ask, open-ended questioning, and Teach-back, while 22 (92%) reported having used NURSE statements and non-verbal communication (Table 2).

Discussion

In this pilot educational intervention study, we observed that during a simulation exercise of disclosing a medical error, trainees who had taken a communications skills training curriculum implemented behaviors aimed at "establishing understanding in patients" more often than those who did not undergo training. Importantly, all trainees implemented most or all behaviors for showing engagement through non-verbal communication and addressing patient emotions regardless of having done the training; although those who had done the training received higher quality scores in all three communication domains, suggesting a benefit to explicit training. Collectively, our findings suggest that explicit instruction and practice in structured communication strategies may help trainees enhance key communication skills, particularly those needed to ensure that patients are understanding what is being communicated. Notably, most trainees reported having

Table 1. Communication behaviors used by first-year resident physicians when disclosing a medical error during simulated encounters with standardized patients.

Communication Behavior [Associated Structured Communication Strategy] (N = 27)	[a]Control (n = 13) no. (%)	[a]Training (n = 14) no. (%)	P value[b]
Show Engagement (Non-verbal communication)			
Leaned forward [OBL]	13 (100)	13 (93)	>.99
Made eye contact [OBL]	11 (85)	14 (100)	.222
Used open body posture [OBL]	13 (100)	14 (100)	>.99
Allowed time for patient response without interruption [P]	12 (92)	14 (100)	.482
Establish Patient Understanding			
Opened by asking patient if they were ready to discuss diagnosis [ATA]	2 (15)	10 (71)	**.003**
Provided medical information in chunks [ATA]	4 (31)	12 (92)	**.001**
Used plain/everyday language to describe medical information [PL]	10 (77)	14 (100)	.098
Asked open-ended questions ("what?" "how?" "tell me more") [OQ]	2 (15)	14 (100)	**<.001**
Paused regularly [P]	7 (54)	13 (93)	**.033**
Asked the patient to summarize what was said [TB]	0 (0)	7 (58)	**.002**
Asked the patient to ask questions [ATA, OQ]	10 (77)	13 (93)	.326
Retaught information if patient did not understand [TB]	9 (69)	14 (100)	**.041**
Asked patient if they needed clarification [ATA]	6 (46)	12 (86)	.046
Address Patient Emotions			
Acknowledged that the patient was upset or concerned [N]	12 (92)	14 (100)	.482
Paused after sharing complicated or difficult information [P]	8 (62)	13 (93)	.077
Named the emotion the patient was exhibiting [N]	7 (54)	13 (93)	**.033**
Showed understanding of the patient's emotions [N, OBL]	11 (85)	14 (100)	.222
Showed respect in addressing the patient's emotions [N]	11 (85)	14 (100)	.222
Showed support for the patient's needs [N]	9 (69)	14 (100)	**.041**
Explored the patient's concerns [ATA, N]	4 (31)	14 (100)	**<.001**

Bracketed abbreviations indicate the structured communication strategies that were taught in the Institutional Curriculum that are associated with each behavior: ATA, Ask-Tell-Ask; N, NURSE; OBL, open body language; OQ, open-ended questioning; P, pausing; PL, plain language; TB, Teach-back.
[a]Training group participated in Institutional Curriculum training before simulated encounters while the control group did training after the simulation exercises.
[b]P values calculated with Fisher exact test or Chi-squared test.

implemented the skills they had learned into their clinical practice, found the tools useful, and felt quite comfortable communicating with patients and disclosing medical errors, which suggests that institutions can provide effective and sustainable communication training to early career physicians. Our long-term goal is to use findings from this study to refine our training program to include the key communication skills that early career physicians would most benefit from explicitly learning.

Health care providers communicate a wide array of information to different stakeholders; therefore, determining the types of communication scenarios to include in a training program and which specific skills to teach for conveying different messages is a considerable task. In our curriculum, we chose to provide instruction in the interactions that our faculty felt first-year residents would most likely encounter, mostly involving patients. We note, however, that interprofessional communication skills are also essential, since clinical miscommunication is a major cause of medical errors, and inefficient interprofessional communications cost hospitals in the United States alone up to $12 billion annually.[30,31] We covered methods for efficient patient handoffs in our program, and we recommend that training initiatives include at least some best practices for interprofessional communication in addition to clinical communication with patients. With that said, communicating with patients is particularly difficult because it may involve a gap in medical knowledge between physician and patient, could take place within an emotionally charged situation, and might
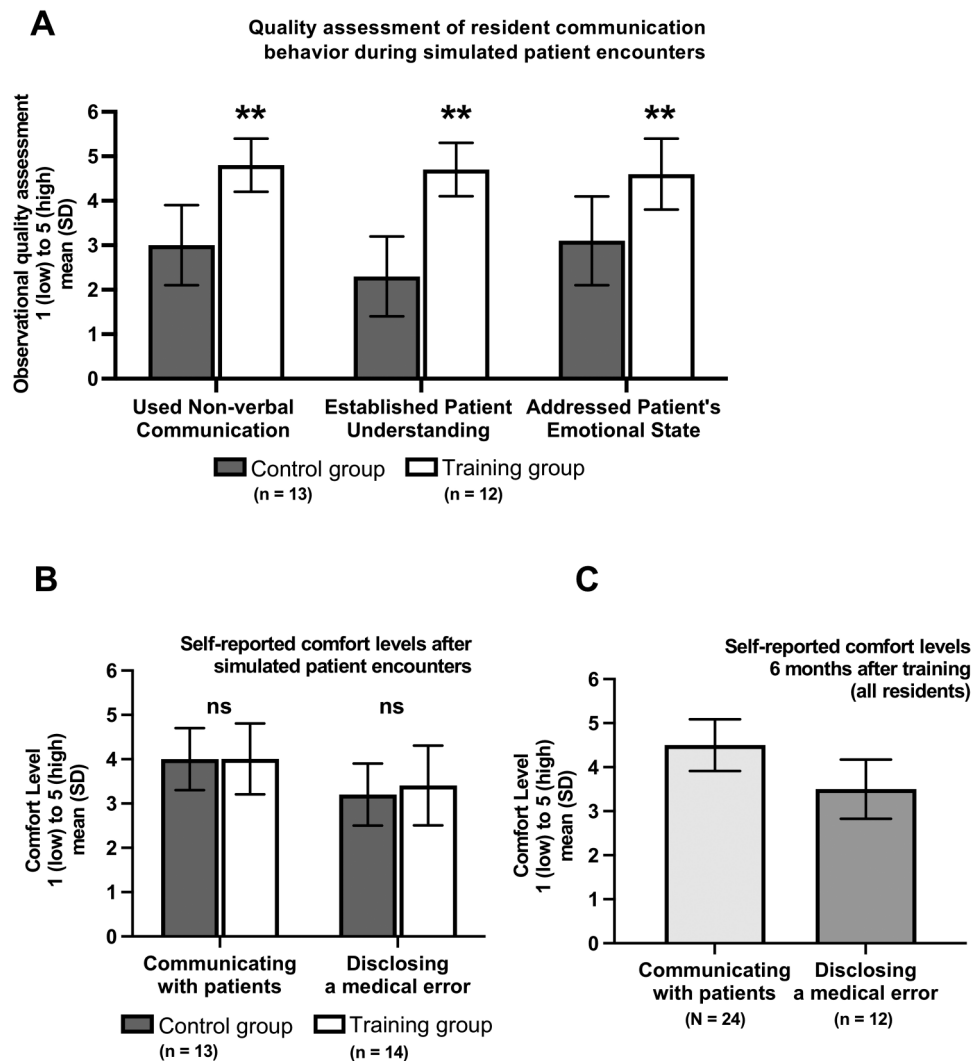
A

Quality assessment of resident communication behavior during simulated patient encounters

B

Self-reported comfort levels after simulated patient encounters

C

Self-reported comfort levels 6 months after training (all residents)

Figure 1. Quality assessment of resident communication skills while disclosing a medical error during a simulated patient encounter and self-reported comfort levels in communicating with patients. (A) Mean quality assessment of residents who had (gray bars) or had not (white bars) attended a curriculum in communication skills (global rating scale: 1 = poor through 5 = excellent). (B and C) Mean self-reported rating on overall comfort communicating with patients and disclosing a medical error during a simulated encounter (B) and in the clinic (C). Note that the 13 residents from the control group in (A) and (B) attended training after experimental evaluations were done; therefore, groups are not stratified in (C). (Likert scale: 1 = not comfortable at all to 5 = very comfortable). $**P < .001$; Wilcoxon rank sum test; ns = not significant. SD, standard deviation.

include contextually challenging issues such as differences in culture, language, and attitudes. In a systematic scoping review of medical school communication training programs, communication skills were stratified as core versus advanced, where topics such as breaking bad news, disclosing medical errors, handling context-specific situations (eg, end-of-life discussions), and providing general patient education were categorized as advanced, while general relationship building, non-verbal communication, and addressing emotional aspects of communication were considered core skills.[32] However, the authors also emphasized the need for early training so that developing physicians can practice, receive feedback, and assimilate skills in a safe space.[32] Based on our experience, we believe that the proposed core communication skills (eg,

handling one's own emotions, relationship building, and non-verbal communication) are embedded within the more advanced context-specific situations, and we feel that although the core-versus-advanced model is a helpful organizational paradigm for curriculum design, we feel there is no reason to delay using advanced content in early communication training within a graduate medical education context. Even in our small group, about half of the first-year residents who took our follow-up survey reported having disclosed a medical error within 6 months of having taken the curriculum. Thus, even in their earliest clinical encounters, trainees may face substantial communication challenges, and we believe that early preparation for difficult situations is the best approach. Another reason for addressing context-specific advanced
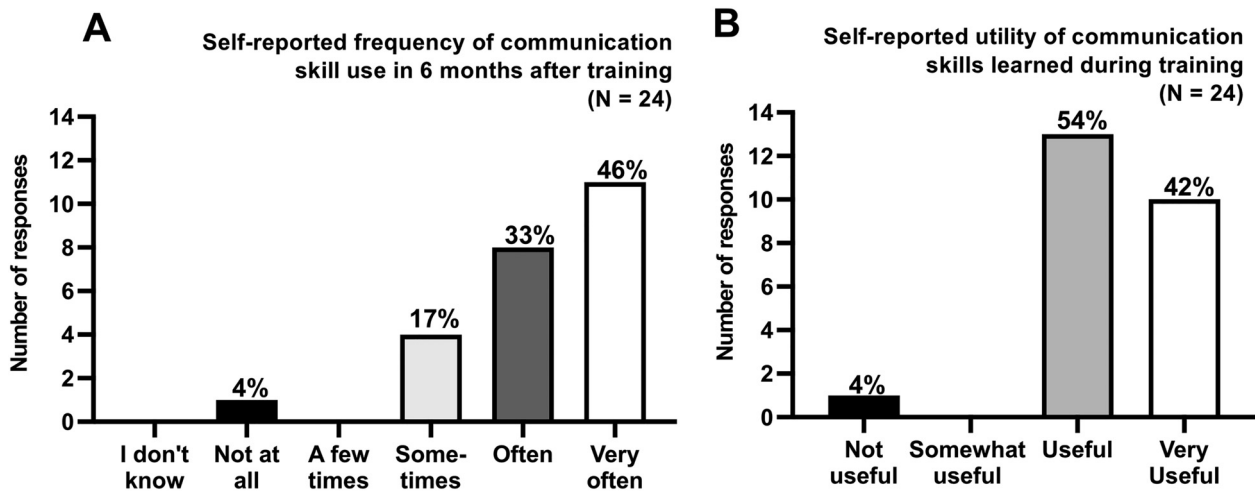
Figure 2. Trainee rating of the utility and frequency of use of communication skills that were learned in the Institutional Curriculum. Follow-up survey results showing that (A) most residents (79%) had employed the learned communications strategies often or very often during the 6 months after training and (B) felt that the communication skills were useful or very useful (96%). $N = 24$ respondents.

Table 2. Communication strategies used by residents in 6 months after having attended the communication training.

Communication Strategy[a]	Yes ($N = 24$) No. (%)[b]
Ask-Tell-Ask	24 (100)
NURSE statements	22 (92)
Non-verbal communication[c]	22 (92)
Open-ended questions	24 (100)
Teach-back	24 (100)

Abbreviations: NURSE = naming, understanding, respecting, supporting, exploring.
[a]Follow-up survey question was "In the last 6 months, when communicating with patients, have you used any of the following communication tools?"
[b]The control group did a simulated patient encounter after attending the Institutional Curriculum; therefore, residents were not stratified into experimental groups for the follow-up survey.
[c]One respondent reported not knowing what this communication strategy was.

topics during early career training is that many institutions may not have the resources to offer long-term, intensive communication training with follow-up clinical evaluation, further highlighting the need to introduce trainees to the difficult situations they are almost guaranteed to encounter.

In addition to deciding which clinical scenarios to cover during communication training, those who design curriculums must also choose from an array of communication strategies that have been developed to serve different clinical needs. In our curriculum, we included several structured communication tools that residents could practice during training and then systematically implement during their clinical training to address different patient needs, including Teach-back and Ask-Tell-Ask to establish patient understanding and NURSE statements to address patient emotions. Patients face numerous barriers when receiving care, including feeling rushed during a consultation, feeling overwhelmed and stressed by the quantity and negative nature of information provided, and having language and cultural differences with caregivers.[25] However, these barriers can be alleviated through specific actions on the part of both clinicians and patients, and the method of Teach-back may be particularly empowering for fostering patient participation.[25] Teach-back is a method in which physicians ask patients to reiterate their understanding, which provides opportunities for clarifying misunderstandings.[25] One systematic review showed that the Teach-back method was effective in 19 of the 20 studies reviewed and led to positive patient learning outcomes, such as knowledge recall, as well as health-related outcomes, such as lower hospital readmissions.[21] And a more targeted systematic review showed that the Teach-back method during patient discharge education was associated with reduced readmission in patients with heart failure.[27] Ask-Tell-Ask is a slightly different structured tool for establishing patient understanding and involves a process of assessing the patient's current understanding, then conveying information in an straightforward way, and finally checking the patient's understanding again.[20] The main finding in our pilot study was that trainees who had participated in explicit communication training performed more actions to establish patient understanding during simulations than those who had not yet received training, suggesting to us that early career physicians may not have an intuitive ability to convey difficult information to a non-medical audience. Thus, structured tools to help physicians convey complex material to patients may be particularly important for physicians to learn during early career training. We emphasize that all 24 of the residents who did our follow-up survey reported having used Teach-back and Ask-Tell-Ask during the 6 months following the training program, highlighting that these relatively easy-to-use strategies can give early career physicians some systematic approaches for establishing patient understanding.

Interestingly, we observed that regardless of whether the trainees had attended the curriculum, they all did remarkably well at showing engagement through non-verbal communication and addressing patient emotions. However, those who had done the training were better at a few aspects of addressing patient emotions, including naming the emotion the patient was exhibiting and exploring the patient's concerns. The tool we provided for addressing patient emotions was the NURSE strategy—a mnemonic for naming, understanding, respecting, supporting, and exploring; thus, we were not surprised that more of the training group explicitly named the patient's emotions, although we note that over half of the control group did too.[20] But we were pleased to see that even the residents who had not yet done the training clearly acknowledged when the standardized patient was upset and showed respect and understanding when addressing the patient's emotions. We can only hypothesize a non-pedagogical reason for this—the residents chose a caregiving field, and so displaying a caring, generous attitude and respecting other's emotions are not surprising psychosocial traits in this population, especially within the relatively low-stress environment of a simulation exercise. But verbally stating a patient's emotion out loud and then purposefully exploring that emotion may not be an intuitive behavior, and tools like NURSE for addressing emotions or the SPIKES protocol for breaking bad news[22] are systematic schemes that can be powerful reminders for physicians to take a few extra moments during their brief time with patients to build rapport and conscientiously attend to the emotional aspects of a health care interaction. These strategies would be particularly important for physicians working in disciplines that involve a high frequency of difficult conversations, such as oncologists.

Ultimately, physicians are responsible for their own long-term professional development, and self-monitoring is a critical but challenging element of this process. But self-monitoring one's own non-technical skills may be more difficult than self-monitoring discrete technical skills (eg, bedside procedures), especially for early career physicians, and educational support to help physicians consciously attend to their development as communicators may be a key element to include in graduate medical education curriculums.[33] Many of the aforementioned systematic communication tools may help physicians be more consciously self-aware of their communication behaviors, allowing them to better monitor their own development as communicators. Overall, we believe that a balance between explicit instruction in discrete communication strategies (with observation and feedback) early in medical training and ongoing independent clinical experience with self-reflection is a reasonable and well-rounded approach to clinical communication education.

Limitations and strengths

This study had some limitations, including a small sample size and having been done during one academic year at a single institution. Also, trainees were from a single cohort within one specialty, and trainees in other disciplines may perform differently at baseline and after training. Also, trainees may have had previous training in communication skills and in addressing patient emotions, which was not evaluated. However, we note that the Internal Medicine program at our institution has the largest incoming cohort of residents, and so it was chosen as the group of interest. Note that no power calculation was performed because (a) this was a convenience sample limited by the number of Internal Medicine residents entering the program at the time of the study, and (b) the observational nature of the measured educational outcomes alongside the simple descriptive statistical approach limits the generalizability of the data. Although the survey and evaluation instruments were not formally validated because of time constraints, they were rigorously developed and reviewed by educational and medical experts through several rounds of discussion and revision, and they were customized to the specific study and curriculum. The simulation exercise was restricted to disclosing a medical error, and other simulation cases involving breaking bad news or explaining difficult concepts may elicit different results. We note that the one participant who reported not having used any of the communication strategies 6 months after the Institutional Curriculum training did report having used each of the individual communication strategies, which is an inconsistency. Evaluators could not be blinded as to control and experimental groups because of the timing of the study and may have shown bias during assessments, although all evaluators were trained in using the instrument and in maintaining neutrality. Trainees had to perform simulations virtually with standardized patients because of COVID-19 safety measures—results from in-person encounters may be different, and several measures may have been difficult to evaluate because of the virtual nature of the interactions. Also, trainees in the control group had worked in the clinic before the simulation evaluation, which may have affected their communication skills. The strengths of this study include direct observation of trainees applying communication skills by trained observers who are experts in instructional design and education. The use of standardized patients ensured that every physician was observed communicating the same error to a group of trained actors who portrayed the same role during each encounter. This technique may have reduced bias in our study. The study group of trainees was demographically heterogeneous in the areas of race/ethnicity, sex, and medical school training (not reported for confidentiality reasons). Working with standardized patients and receiving immediate feedback from physician observers allowed trainees to process and evaluate adjustments to improve their communication with patients.

Future directions

Longitudinal studies of individual physicians may shed more detailed light on how different physicians develop communication

skills during their unique professional trajectories. Additionally, defining the specific communication needs of physicians in different disciplines may help educators develop tailored programs for physicians who may require specialized communications tools for specific tasks, such as communicating particularly serious health news or working with specific patient populations. Conversely, tailored programs may reduce the wasted time and effort incurred when physicians are required to learn processes that may not be applicable to their field. Also, with the rise of telehealth since the COVID-19 pandemic, studies of the potential differences between in-person and virtual clinical communication and best practices for virtual encounters are needed.

Conclusion

First-year residents who explicitly learned and practiced 7 structured communication strategies were more likely to exhibit behaviors for establishing patient understanding during a simulated patient encounter than those who had not attended the training. However, all trainees exhibited numerous effective communication behaviors, such as showing engagement through non-verbal communication and addressing patient emotions, regardless of having attended the training. Importantly, most trainees reported implementing the learned strategies during their clinical practice and found them useful, showing that systematic approaches to clinical communication can support early career physicians as they transition away from didactics and into the clinical arena. Our pilot study suggests that training physicians in systematic, easy-to-use, non-intuitive communication strategies focused on ensuring patient understanding may be a way to streamline communication training curriculums and provide early career physicians with practical strategies for improving patient interactions.

Acknowledgments

Author contributions

MMH conceptualized the study, developed methods, conducted the curriculum, supervised the curriculum and evaluations, did formal analysis, and wrote and edited the manuscript.
JN developed methods, conducted evaluations, did formal analysis, and wrote and edited the manuscript.
AM conceptualized the study, developed methods, conducted evaluations, did formal analysis, and wrote and edited the manuscript.
KDP conceptualized the study, developed methods, did formal analysis, and wrote and edited the manuscript.
OAL conducted the curriculum, developed methods, supervised simulations, and edited the manuscript.

Data availability

All data in this report were originally generated.

Declaration of conflicting interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval statement

This study was approved by the Henry Ford Health Institutional Review Board on May 24, 2021 (IRB #14785).

Supplemental material

Supplemental material for this article is available online.

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