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From chaos to creativity: Designing collaborative communication training for the delivery of bad news

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ABSTRACT

Background: Before the COVID-19 pandemic, teaching communication skills in health care focused primarily on developing skills during face-to-face conversation. Even experienced clinicians were unprepared for the transition in communication modalities necessitated due to physical distancing requirements and visitation restrictions during the COVID-19 pandemic. We aimed to develop and pilot a comprehensive video-mediated communication training program and test its feasibility in multiple institutional settings and medical disciplines.

Methods: The education team, consisting of clinician-educators in general surgery and emergency medicine (EM) and faculty specialists in simulation and coaching, created the intervention. Surgery and EM interns in addition to senior medical students applying in these specialties were recruited to participate. Three 90-minute sessions were offered focusing on 3 communication topics that became increasingly complex and challenging: breaking bad news, goals of care discussions, and disclosure of medical error. This was a mixed-methods study using survey and narrative analysis of open comment fields.

Results: Learner recruitment varied by institution but was successful, and most (75%) learners found the experience to be valuable. All of the participants reported feeling able to lead difficult discussions, either independently or with minimal assistance. Only about half (52%) of the participants reported feeling confident to independently disclose medical error subsequent to the session.

Conclusion: We found the program to be feasible based on acceptability, demand, the ability to implement, and practicality. Of the 3 communication topics studied, confidence with disclosure of medical error proved to be the most difficult. The optimal length and structure for these programs warrants further investigation.

Introduction

Delivering difficult news to patients or families can be challenging, even for the most experienced clinician. The field of oncology has led the development of skills training for emotionally laden conversations. First described in 2000, the Set-up, Perception, Invitation, Knowledge, Emotions and Summary/next Steps (SPIKES) model provided a framework to help clinicians structure breaking bad news conversations.[1] Since then, a variety of communications training programs have been developed and studied.[2–6] Notably, these programs have been almost entirely focused on skills for in-person discussions, undoubtedly because of the widespread belief among health care professionals that it is best practice to undertake difficult conversations face-to-face.[7] However, the COVID-19 pandemic compelled a radical change in communication practices for which many clinicians and educators were unprepared.[8–11] We aimed to pilot a comprehensive

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video-mediated communication training program in multiple institutional settings and medical disciplines and test its feasibility.

During the height of the first wave of the pandemic in early 2020, the mandates for physical distancing and visitation restrictions transformed interactions with patients, families, and learners. In-person medical visits and classes were frequently prohibited. Of note, clinical discussions often involved delivering difficult information about diagnoses and prognosis, especially related to COVID-19 itself. Along with many other health care professionals and educators, we recognized that the nonverbal communication tools such as proximity, touch, and eye contact that are the core of face-to-face communication require alternative skills in virtual-mediated communication.[12]

There are a variety of modalities that provide alternatives to communicating face-to-face (eg, video [sound and visual communication], telephone [sound-only communication], text message and email [text-only communication], and social networks [mixed media].[13] In our work, we focused on a video platform using Zoom computer software (version 5.9.1, San Jose, CA), which we referred to as video-mediated communication (VMC). The standardized/simulated patients (SPs) portray patients or family members. This approach allowed us to teach communication skills that include tone, verbal statements, and facial cues. Also, we addressed best practices related to the technical and visual elements of the interaction. In our previous work, we learned that a single case scenario was not enough for learners to practice and integrate these skills and that a larger number and more varied cases would be helpful.[14,15] We also observed that real-time critique from the SPs was highly valued and that learners expressed the desire for even more comprehensive feedback.

To meet these needs, we designed a curriculum incorporating cases focused on a variety of topics of escalating difficulty. There is a paucity of existing evidence on best practices for disclosure of medical error (DOME), supporting both the need for as well as the challenge in teaching this important skill.[16–18] We sought to provide learners with models to frame these conversations and respond to emotions with empathy, which is often a limitation for clinicians who lack experience leading emotionally difficult interactions. In order to provide even more meaningful feedback, we trained faculty coaches to employ the Relationship, Reflection, Content, Coach and WOOP (wish, outcome, obstacle, plan) models to facilitate insight and goal setting.[19,20] As there are few previously published studies describing this specific intervention, we used the areas of focus outlined by Bowen et al to assess feasibility.[21] In particular, we focused on acceptability, demand, practicality, and the ability to implement in this project. Although this study represented an advance from our initial single-institution studies, we remained on the "can it work?" stage of the continuum described by Bowen.[14,15,21] We hypothesized that a comprehensive, multi-institutional virtual training curriculum for communicating difficult information would be feasible and would lead to provider confidence, competence, and self-reflection.

Methods

This was a mixed-methods study using surveys and narrative analysis of open comment fields. The study team consisted of 16 clinician-educators in general surgery and emergency medicine (EM) and faculty specialists in simulation and coaching at 4 large academic university hospitals from 3 distinct geographic regions. Although there was some overlap in areas of focus, 5 team members were surgical faculty, 5 were emergency medicine faculty, 3 were simulation experts, and 3 specialized in medical education. The geographic areas were the South, the Midwest, and the Southwest.

The learners came from the same institutions as the study team members, and they were surgical and EM interns, as well as fourth-year medical (M4) students going into surgical training programs. The M4 students were recruited by an email sent to all M4 students who had applied to surgical or emergency room residencies in Electronic Residency Application Service that year. The interns were recruited by an email sent by the program directors for each clinical residency. Learner participation was encouraged but not required, and each institution provided voluntary signup for learners.

The multi-institutional training sessions were hosted virtually through the Center of Human Simulation and Patient Safety at Virginia Commonwealth University. Three separate 90-minute training sessions were created and took place between February and May 2021. Each session contained 2 simulated case scenarios with interactions between participants taking place via Zoom. The logistics of each session were provided in a detailed prebrief at the beginning of each individual session (Figure 1). Instructional videos introducing the SPIKES and Name, Respect, Understand, Explore frameworks were generated with examples of best practices for each session and provided to the trainees for preparation before their participation. The participants in each encounter included the learner, an SP portraying a patient or the family member of a patient, and a faculty communication coach trained in coaching and the SPIKES and Name, Respect, Understand, Explore frameworks.[1,6] The training for the faculty coaches was 2 hours long and emphasized the use of the Relationship, Reflection, Content, Coach framework to establish a relationship, encourage reflection, confirm content, and coach for change.[19] The coaches were also trained to use the WOOP model to give learners a framework for establishing and working toward a goal.[20] The SPs in our program were trained in debriefing and providing feedback using the advocacy inquiry model.[22,23] The SP training included 3 hours of classroom and workshop instruction with ongoing quality assurance monitoring and annual reviews.

The participants were placed in separate breakout rooms by the project manager. The faculty coach did not interact in the simulated clinical encounter but observed the encounter with an anonymized name on Zoom ("Moderator"), with the video turned off and sound muted. This was done to avoid the presence of the coach acting as a distraction to the learner.

After each case, the learners received feedback from the SPs, followed by faculty coaching and goal setting with the learner at the end of each case. The difficulty of the sessions and the communication skills needed to navigate each of these situations were designed to increase in a stepwise fashion from the first session to the last. An emphasis was placed on identifying the learners' strengths, addressing both observed and perceived obstacles encountered in the first case and setting goals for overcoming these obstacles in the second case and in real-life discussions—thereby providing continuity for each learner with skills development, goals setting—and the overall development of communication skills through the cases within each session, as well as through the sessions overall. The session concluded with a debrief, which included all of the session participants (including representatives from the study team). This was designed to be a space for reflection for both the SPs and learners, and a supportive environment where positive and constructive comments and the sharing of emotional reactions were encouraged.

Session I involved the delivery of bad news, requiring the learners to inform a patient or family member of an unanticipated serious diagnosis and respond with empathy to their reaction. Session II focused on the discussion of goals of care: addressing complex medical decision making. This session required learners to assist the standardized patient to explore preferences for end-of-life care. Finally, session III required the learner to disclose details

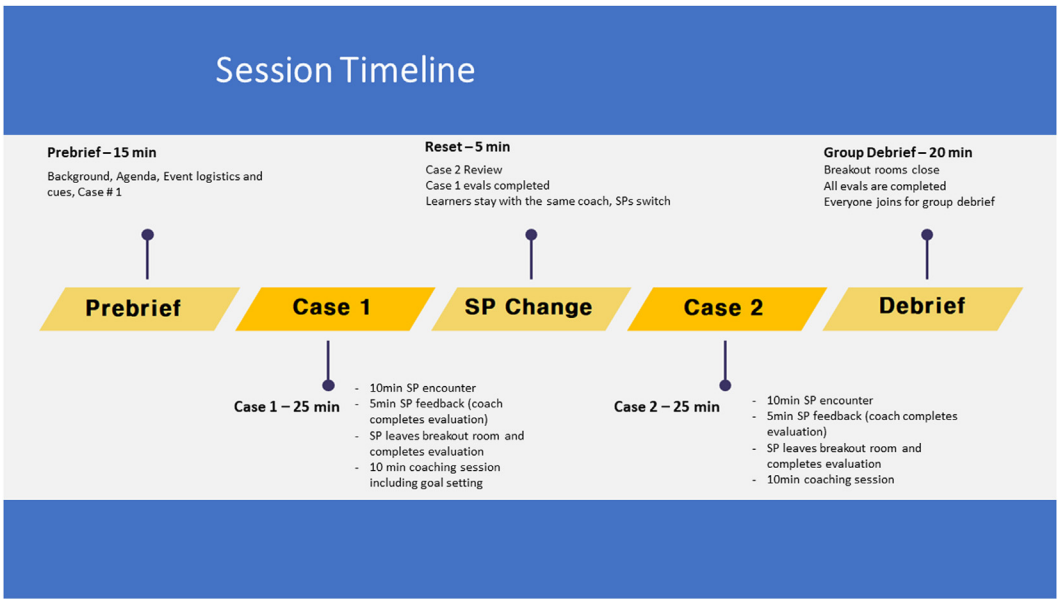

Figure 1. Session timeline. SP, standardized patient.

of a medical error for which they were personally responsible and to describe how the error was addressed and how the learner would avoid this error in the future. The cases were developed and reviewed by study investigators. See Supplementary Materials for an outline of goals and learning objectives, tied to the ACGME competencies and milestones for each of the 3 sessions.

After each session, the learners completed an electronic evaluation survey. The survey was developed by study investigators and was modified from our previous programs.[14,15] Although it was reviewed by learners and faculty not part of the study for clarity, it was not otherwise piloted or changed before its use for this project. The survey collected basic demographic information about the learner, their prior experience with engaging in difficult conversations virtually, reactions to the training sessions, and perceived ability to have difficult conversations with patients independently without supervision. The quality of the training session was measured with 6 items using a 5-point Likert scale. The Likert scale range of responses included 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree. Three open-ended items asked the learners to describe: "Any ways in which using the remote system impacted your ability to interact or communicate bad news to patient or family when compared to face to face interaction?"; "What aspects of this activity were most helpful?"; and "What recommendations do you have to improve this learning activity?" Lastly, the survey assessed the perception of usability for the virtual platform to practice telehealth skills with 10 items using a Likert scale representing usefulness, quality of interaction, and intention to use telehealth, followed by open-ended comments. Response frequencies were used for evaluating learner satisfaction and preparation to have difficult conversations independently in future encounters for each scenario. Two study team members coded the open-ended responses through 2 stages of qualitative analysis. In the first stage of analysis, initial coding was employed to descriptively summarize the relevant segments of each comment. In the second stage of analysis, the initial codes were organized into focused codes or categories that highlighted conceptual themes emerging from the first stage of analysis. The codes were then reviewed for consistency by the research team.

Table I
Session participation

Institution	Number of learners
VCU	12
BSW	1
UC	14
OS	7
Total	34

BSW, Baylor Scott & White; *OS*, The Ohio State University Wexner Medical Center; *UC*, University of Cincinnati Medical Center; *VCU*, Virginia Commonwealth University Health System.

This study was reviewed by the Virginia Commonwealth University institutional review board (IRB) and accepted under the exempt category. The corresponding IRB number is HM20019412. The collaborating institutions determined that independent IRB approval was not required as the primary institution approved the project as exempt.

Results

Thirty-four learners from 4 institutions participated in at least 1 of the 3 training sessions including 21 EM interns, 9 surgical interns, and 4 medical students (see Table I). Twenty-nine participants completed at least 2 sessions. Eighteen learners completed all 3 sessions (12 in the intended order). A major factor for the failure of learners to complete all of the sessions was a winter weather emergency that closed the simulation center for several days during the first session. Sixty-six total evaluations were completed across all 81 learner sessions (Breaking Bad News [BBN], $n = 20$; Disclosure of Medical Error [DOME], $n = 21$; Goals of Care [GOC], $n = 25$) for a response rate of 81%. One study site had all eligible learners complete at least 2 sessions, and 1 site had only 1 learner participate.

Overall, the learners evaluated the training positively across all 3 sessions with $\geq$75% of learners finding the training to be a valuable learning experience (Figure 2). Most of the learners reported that feedback from the SPs and coaching from faculty were helpful (76% agreed), although ratings of the DOME scenario were slightly lower

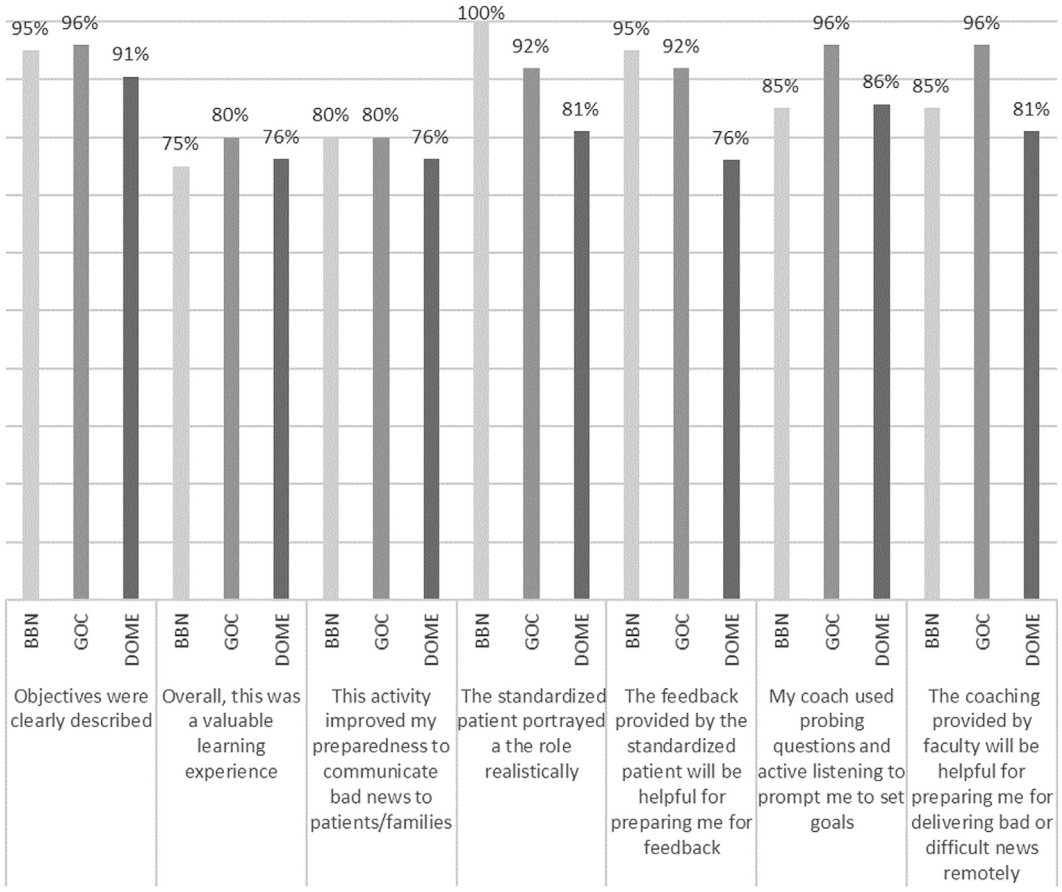

Figure 2. Percentage of learners either agreeing or strongly agreeing with evaluation survey items. BBN, breaking bad news; GOC, goals of care; DOME, disclosure of medical error.

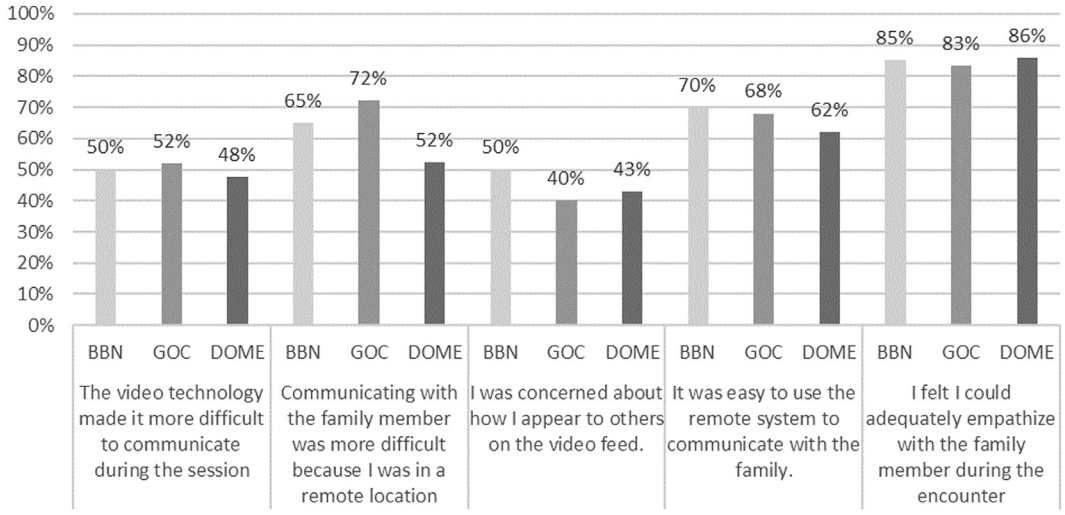

Figure 3. Percentage of learners either agreeing or strongly agreeing with telehealth survey items. BBN, breaking bad News; GOC, goals of care; DOME, disclosure of medical error.

than the BBN or GOC scenarios on quality of standardized patient performance portraying the patient and quality of SP feedback. Overall ratings were similar across sessions.

Approximately 50% of learners said the video technology made it more difficult to communicate with family members across all scenarios (Figure 3). The DOME scenario was rated slightly more difficult to use the system and communicate with family members. Even with the usability challenges, approximately 85% of learners still said they could adequately empathize with family members across all encounters. All respondents indicated that they felt comfortable leading difficult discussions remotely with someone directing them only from time to time or independently across all scenarios (Figure 4). A smaller percentage of learners reported feeling they could deliver bad news using telehealth independently for the DOME scenario (52%) compared to the BBN (75%) and GOC (72%) (Figure 4).

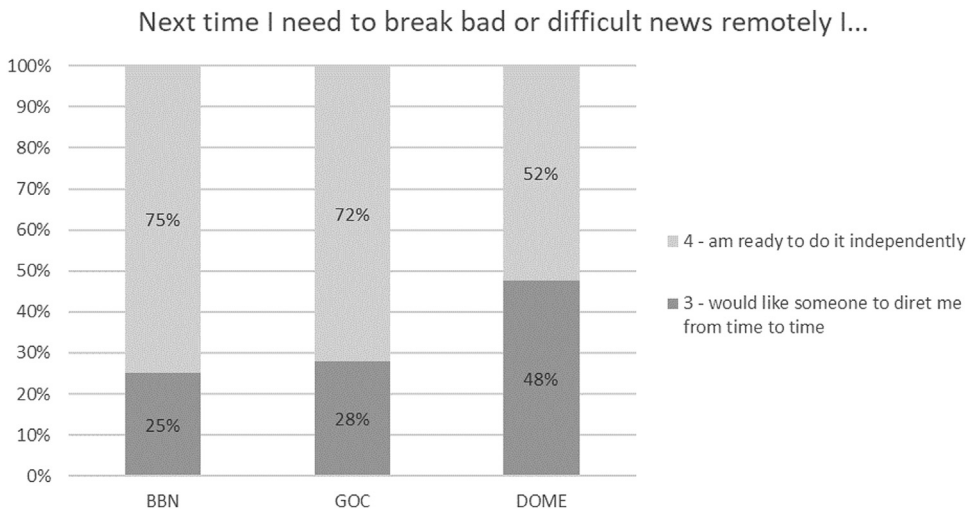

Figure 4. Learner self-rated level of comfort leading difficult conversations. BBN, breaking bad news; GOC, goals of care; DOME, disclosure of medical error.

Table II
Feasibility evaluation

Category	Evaluation	Summary of findings
Acceptability: What are participant reactions?	Participant reactions to the training measured by evaluation survey items and open-ended comments about each training session.	Learners found training valuable although this differed by scenarios (see Figure 2).
Demand: Are learners likely to use?	Diversity of institutions and learners participating in the training sessions.	34 total learners participating in 81 total sessions; 12 learners completed full program (3 sessions)
Implementation: Was training effectively delivered to learners?	Number of sessions completed successfully	Some technical difficulties such as reliable Internet and scheduling challenges due to different time zones and conflicting obligations.
Practicality: Were resources adequate for implementation?	Resources used for implementation. Resource challenges for sustainability.	Most significant resource limitation is learner time. This will be mitigated by advance planning and adjusting for individual program schedules.

Categories and descriptions derived from Bowen 2009. Adaption, integration, expansion, and limited efficacy not assessed.

Using a focused coding approach, we examined the participant statements describing the value they found in the training sessions. Through this analysis, we identified the prevalent themes emerging from learner comments. Three key themes emerged. First, the participants valued gaining practice in delivering challenging news. Second, the participants valued receiving feedback on their performance while delivering challenging and bad news. A participant conveyed these themes in the following statement, "The targeting coaching and SP feedback were very helpful. Also, having the opportunity to take the feedback from the first case and apply it to the second case is extremely helpful." In the third theme, the participants valued "learning a framework" that assists in guiding their practice. These findings were consistent with feedback we have received from previous evaluations of the training sessions.

Discussion

Our findings suggested that learners find value in simulation-based training to prepare for having difficult conversations remotely, especially during the COVID-19 pandemic. The themes identified in the comments (eg, participants valued being provided with a structure to use for these discussions as well as the opportunity to practice and receive feedback) align with the objective results we obtained from surveys. This supported the acceptability of the intervention as described by Bowen (Table II).

However, the outcomes for implementation were more mixed, with significant variability between sites. For example, 1 site had significantly less participation than the other 3 sites. The reasons behind this difference were likely multifactorial, including the day and time of sessions, the learner conflicts with other obligations (ie, conference attendance or patient care responsibilities), and, finally, the implicit or explicitly stated expectations of involvement by program directors. The site with lower attendance is in a different time zone than the other 3 sites. Only 35% of learners completed all 3 sessions, suggesting that a comprehensive 3-session training program may not be entirely practical for time-constrained learners. However, we believed there was an opportunity to optimize this metric with more advance planning in the absence of a timeline related to a funding source, possibly in the context of an ongoing long-term program. Of note, although participation was strongly encouraged, it was not mandatory. Lastly, demand for this training must be assessed in the context of implementation barriers and practicality. However, the robust participation of learners at some sites and positive reception speaks to its perceived value for participants.

Approximately three-quarters of respondents indicated they felt comfortable leading difficult conversations independently after completing the BBN and GOC scenarios, but only about half said they felt ready for independent practice after the DOME scenario. These differences were unexpected because most of the learners had already practiced with the BBN or GOC scenarios before participating in the DOME session and should have felt as or better prepared. This may be due to the inherent level of difficulty associated with disclosing a medical error compared with breaking bad news or goals of care discussions. Another potential contributing factor may be that participants gave lower ratings to components of the quality of the training itself for the DOME scenario, such as quality of SP performance, quality of feedback, and usability of the system. Much of the literature regarding training for the disclosure of medical errors has indicated the need for more training in this area, as well as the unique challenges associated with the disclosure of medical error.[16–18]

Our results indicated that ≥25% of learners with responsibility for having difficult conversations with patients remotely still thought they would benefit from supervision or direction from time to time, even after completing a simulation-based training session. Additional workplace supports may be important as well as enabling providers to ask for help and ensuring those with experience are available for guidance or mentorship before and after having difficult conversations remotely or in person.

Practical outcomes of this work have been the acquisition of experience regarding the logistics of conducting these sessions remotely, how to best obtain participant engagement, the most effective delivery for coach training, and the amount of time required for effective learning on these topics. The virtual format enables the involvement of geographically remote sites without the logistical hassles and potential complications of travel. However, our first session was disrupted when winter weather conditions resulted in the closure of the simulation center that was managing the program and providing the SPs. This resulted in some participants completing the sessions out of order rather than in the planned progression. We also learned a 1-hour time difference created a larger barrier to participation than we anticipated.

Furthermore, we intended to facilitate the preparation of the participants by using videos that could be viewed asynchronously rather than having the preparation take place as part of the scheduled experience. However, we observed that participant compliance with viewing the videos was inconsistent. In addition, we noticed that retention of the key points provided in the videos varied based on the time elapsed between the initial viewing and the corresponding session. Lastly, we continued to refine the ideal length of time for the session experience. Our prior experience included a brief 30-minute session that we offered to residents and faculty at the height of the spring 2020 COVID surge.[15] The consensus was that this single case experience was beneficial, but it would have been more effective if it had included more than 1 case experience and more opportunities for feedback. Characterizing the role of asynchronous versus synchronous preparation and the optimal session length are areas for future study.

We began our work during the height of COVID when family visitation was restricted due to safety concerns and in-person communication was not available. However, as these policies have been relaxed, we recognize that there will continue to be a role in health care for virtual communication for a variety of reasons. Virtual communication modalities can be an easier way for patients to access care who live distantly, have mobility restrictions, or are otherwise limited in their ability to travel to in-person appointments. Also, it can allow family, next of kin, or those with power of attorney to participate in important health care discussions and medical decision making in a more meaningful way when geographically remote. Lastly, with patients having immediate access to their medical records, virtual communication can allow for the explanation and discussion of information that would previously have been delayed until an in-person visit could be scheduled. In the past, many of the above examples would occur via telephone, although this modality does not allow for nonverbal communication, which can be a critical element of difficult conversations. As such, we anticipated that virtual platforms will be used more frequently for difficult conversations, particularly when communicating important information with patients/families in multiple locations and coordinating care. It will be important for the next generation of physicians to be facile with using a virtual platform to convey difficult news with clarity and empathy. Future work must examine outcomes beyond self-report of such curricula.

The limitations of this work included a lack of compliance data with presession preparatory materials and unanticipated weather-related changes to the order of the sessions. We did not collect the baseline measures of the participants. Also, the participation in this project was voluntary for the learners, therefore it could have skewed the sample to individuals with pre-existing ability or engagement with the topic. The trainees in surgery and EM are a difficult population to study due to the many competing demands on their time, which they cannot always control. Adjusting the schedule of sessions to allow for more flexibility may improve learner participation. Overall, this virtual communications curriculum was deemed feasible and relevant. The translation of these training sessions to improvement in delivery of difficult news to patients and enhancement of empathetic patient care needs further study. The next steps include performing semistructured interviews with participants after the training experience to better understand their perspective.

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Conflict of interest/Disclosure

The first and corresponding author of this work (Rivet) discloses spouse's receipt of consulting fees (<$10,000) from Medtronic related to neurosurgical device development. Otherwise, the authors have no conflicts of interest to disclose.

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Supplementary materials

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