Introduction: Despite growing recognition of pediatric palliative care’s importance, training in palliative care communication remains a gap in medical education. Graduating medical students frequently feel unprepared to initiate or facilitate goals of care conversations with their patients, particularly in pediatrics. 

Methods: We created a 3-hour session featuring an introductory lecture on pediatric palliative care, communication drills on responding to emotion, and small-group case-based discussions utilizing role-play, targeting fourth-year medical students as the primary learners. Senior residents were also given the opportunity to develop skills by role-playing the patient parent and cofacilitating case discussions alongside palliative care faculty. Students evaluated session utility and their own confidence through pre- and postsession surveys using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). 

Results: Twenty-six students were included in the analysis over 3 years. All agreed that the session was useful (M = 4.9). Students showed significant improvement in confidence in explaining pediatric palliative care (presession M = 3.2, postsession M = 4.1, p < .001), understanding the family experience (presession M = 2.7, postsession M = 4.1, p < .001), and eliciting goals and values from families whose children face serious illnesses (presession M = 3.1, postsession M = 4.1, p < .001). Pediatric resident cofacilitators also felt the session benefited their own teaching and communication skills. 

Discussion: This 3-hour interactive session on pediatric palliative care utilizing communication drills and role-play was effective in improving fourth-year medical students’ confidence in communicating with families of children facing life-threatening illnesses. 

Keywords
Palliative Care, Communication, Role-Play, Goals of Care, Resident Facilitators, End of Life, Pediatrics, Case-Based Learning, Hospice & Palliative Medicine, Pediatric Critical Care Medicine, Virtual Learning
Training in palliative care is perceived as important by pediatric residents but remains a gap identified by both residents and program directors, with less than half of program directors reporting that their residents receive direct training in palliative care.5 Medical students and new interns report even less comfort with pediatric palliative care and end-of-life issues.6 Furthermore, exposure in residency alone, without specific palliative care training, does not appear to improve resident confidence and competence.7

Despite often not feeling prepared to do so, many young resident physicians will find themselves leading goals of care discussions with families under minimal supervision early in their training.8,9 Perceived readiness to lead these conversations upon graduation from medical school predicts resident comfort.9 Thus, it is important for medical students to receive training in these conversations prior to beginning residency, especially since formal palliative care and communication training is also limited in residency.

Case-based role-play has been shown to be an effective and desirable modality for teaching communication skills in general and, more specifically, goals of care discussions.10-12 This modality allows learners to practice newly acquired skills in a low-stakes setting without risk to actual patients and their families.

This curriculum was designed to help fourth-year medical students entering a residency with exposure to children with serious illness (pediatrics, family medicine, and emergency medicine) develop specific skills and language for conducting initial goals of care conversations with pediatric patients and their families. Through a combination of didactics, small-group discussion, and deliberate practice of skills through role-play, the goal of the curriculum was for medical students to gain the confidence, skills, and knowledge necessary to initiate timely, productive, and sensitive goals of care conversations upon entering residency.

The curriculum utilized methods and concepts from VitalTalk,13 a 501(c)(3) nonprofit dedicated to empowering clinicians to communicate effectively and empathetically with their patients through innovative evidence-based education programs. VitalTalk offers training through online modules and video resources for clinicians, as well as live, in-person, train-the-trainer faculty development courses.

Additionally, the curriculum utilized residents both as cofacilitators and as simulated patient parents. Placing senior residents in a teaching role improves their own knowledge and skills, as well as their confidence as an educator.14

While MedEdPORTAL curricula for medical students on breaking bad news and advance care planning conversations for adults exist,15-20 as well as simulation-based curricula on pediatric palliative care communication for residents and fellows,21,22 this curriculum is the first we are aware of that uses pediatric cases to teach core palliative care communication skills to medical students through role-play without the need for standardized patients. Additionally, the role of the resident facilitator and simulated parent is unique and has not been previously described in other curricula.

Methods

We developed this curriculum primarily for graduating medical students matched in residencies with exposure to seriously ill pediatric patients, namely, pediatrics, family medicine, and emergency medicine. We implemented this session during a pediatrics boot camp elective course intended to provide practical communication and procedural skills that would be useful going into residency. The curriculum was designed by local education and palliative care experts and expanded upon our students’ preclinical serious news training where communication tools were first introduced during the first 18 months of medical school. Our learners had also participated in a practice session on advance care planning and delivering bad news to adult patients during the third-year internal medicine clerkship.

Faculty facilitators were trained in palliative care or advanced communication and had an interest in the topics discussed. Resident facilitators were selected based on special interest in communication and/or pediatric palliative care and were far enough into their residency (second and third years) that they had gained experience in working with children with serious illnesses and their families. All resident facilitators had also been through the simulation-based communication curriculum that was offered to all residents at our institution during their second year. This program introduced them to many of the communication skills we focused on in this curriculum. All session materials were sent to the facilitators in advance, and all facilitators met for 1 hour prior to the session to review the material, assign roles, and answer questions. During this meeting, we reviewed key components of the role-play, including evolution of the parent’s emotional response and slow revealing of information, and allowed residents to practice their roles.

The curriculum was implemented in a single session of approximately 3 hours. The three main components included (1) didactic, (2) communication drills, and (3) facilitated small-group role-play. The first two parts were facilitated by a lead
instructor in a large-group setting. For the role-play portion, each small group of three to five students was facilitated by a faculty member and senior resident. Students completed presession surveys assessing confidence in palliative care communication (Appendix A). Resident facilitators also completed presession surveys assessing confidence in teaching communication skills, discussing biases, and eliciting family goals/values (Appendix B).

Didactic: Introduction to Pediatric Palliative Care (30 Minutes) The introductory didactic portion of the session was led by a pediatric palliative care faculty member. We used the PowerPoint presentation (Appendix C) to facilitate a review of the definitions of palliative care, who can provide palliative care, and communication tools and to introduce several specific communication tools. Communication tools included (1) ask-tell-ask,23 which allowed the provider to assess a family’s current understanding and tailor new information to its needs; (2) “I wish...” and “I worry...”24 phrases to facilitate expressions of hope and concern; and (3) NURSE:23,25 a commonly used mnemonic describing various ways to respond to emotions (i.e., name it, understand, respect/reassurance, support, explore). We encouraged student and resident participation throughout the session.

Communication Drills: Large- or Small-Group Practice (15 Minutes) Communication drills were brief practice exercises that allowed participants to repetitively practice a small segment of a more complicated communication framework. Drills allowed participants to become more comfortable with the more challenging aspects of a communication encounter. We created drills that allowed students to practice NURSE statements for responding to emotion with empathy. The final slide from the introductory presentation, which included a description of NURSE statements, was left on the screen for students to use as a reference.23,25 Detailed facilitation instructions for drills are included in Appendix D. Drills can be facilitated in the larger group by one facilitator or in small groups of three to five students.

Case-Based Role-Play: Small-Group Discussion (2 Hours) We divided participants into small groups of three to five students with one resident facilitator and one faculty facilitator. Resident and faculty facilitators used their respective facilitation guides (Appendices E and F, respectively). Students were given the student handout (Appendix G) only. We provided these guides to facilitators through email several days before the session so that they could become familiar with the materials, and we also provided paper copies on session day. We began the small groups with a brief introduction and a discussion of creating a safe learning environment for role-play.

We developed two cases to emulate patient scenarios that residents commonly encounter, including both the intern and parent perspectives. These were included in the resident and faculty facilitator guides. The student handout contained the intern’s perspective on the cases and case discussion questions only. Case 1 involved a medically complex 3-year-old with severe neurologic impairment and multiple recurrent hospitalizations for respiratory illnesses. The goal was for students to begin a conversation with the patient’s parent about the parent’s goals and values for the child. Case 2 involved a teenage male with relapsed metastatic cancer admitted for pain control. The students’ goal was to assess the family’s understanding of the child’s disease and elicit the family’s hopes and worries.

Within each small group, students read the intern perspective aloud. Students reflected on this initial information provided. Facilitators encouraged conversation and emotional responses and then facilitated a discussion using the case discussion questions and the practice-before-role-playing questions included in the student and facilitator guides.

Once there had been sufficient discussion, typically about 20 minutes, each group moved into the role-play, with students taking on the intern role and residents acting as the parent. Framing of the parent’s perspective in each case was included in Appendices E and F, though residents were encouraged to reveal the parent perspective slowly as the students asked appropriate questions. Faculty facilitators provided coaching, pausing or freezing the conversation as needed and allowing for rewinding and reflection throughout. Students rotated through the role of the intern during each case, in such a way that one student would pick up the conversation where the last had left it. At times, we also allowed students to begin the conversation again from the start. Students were encouraged to try out new communication tools they had learned in the didactic portions of the session. The students who were not actively holding the conversation observed and took notes to provide specific feedback to their peer on what they noticed their peer doing well. Due to the vulnerability of the role-play, we encouraged positive peer feedback and left constructive feedback to the facilitator.

At the end of the cases, we returned to the large-group setting for overall reflection and takeaways. We used the wrap-up questions at the end of the facilitator guides for this. We then asked both students and resident facilitators to complete postsession surveys, which included an assessment of the utility of the
session and of confidence in palliative care communication, as well as of the resident facilitators’ confidence in teaching (Appendices H and I, respectively).

The session was evaluated through the presession and postsession surveys, which utilized a 5-point Likert scale (1 = **strongly disagree**, 5 = **strongly agree**) and included questions on self-perceived confidence and the usefulness of the session, as well as an open-ended question for narrative feedback. Residents completed pre- and postsurveys in the last 2 years of the curriculum.

**Results**

This curriculum was implemented at a single institution over 3 years with a total of 27 fourth-year medical students and eight resident facilitators participating. All students who enrolled in the pediatric boot camp course participated. Faculty facilitators reported enjoying the session and returned yearly to facilitate.

One student did not complete the postsession survey and, therefore, was excluded from the analysis. Of the 26 students included in the analysis, all agreed that the session was useful \( M = 4.9, \text{range: 4-5} \) and that they took away ideas they planned to apply to internship \( M = 4.9, \text{range: 4-5} \). Students showed significant improvements in self-reported confidence in ability to explain the role of pediatric palliative care to families (presession \( M = 3.2 \), postsession \( M = 4.1, p < .001 \)), understand the patient and family experience of dealing with life-threatening illness (presession \( M = 2.7 \), postsession \( M = 4.1, p < .001 \)), and elicit goals and values from families facing serious illnesses (presession \( M = 3.1 \), postsession \( M = 4.1, p < .001 \)).

Students also answered open-ended questions focused on changes in communication approach, as well as a question soliciting means for improvement.

Students identified a number of communication behaviors that they would now engage in more frequently as a result of the session. Common themes included avoiding use of “I understand what you’re going through,” being more mindful of biases when communicating with other providers, trying not to set a firm agenda for difficult conversations, and talking less to allow for families to share their perspective more. A few examples of students’ responses are listed below:

- “I will wait until I’ve made a relationship deposit before having a conversation about goals of care.”
- “Stop thinking of every conversation as having an agenda.”

Two to three residents participated as facilitators annually. Survey data were collected during the last two iterations. Residents agreed that the session was useful for reviewing communication skills for their own practice \( M = 5 \) and that they were more likely to teach communications skills when working with learners than they were prior to this session \( M = 4.75 \).

**Discussion**

Despite growing recognition of the importance of pediatric palliative care, training in palliative care communication remains a gap in medical education. Our half-day session resulted in improvements in students’ confidence in their ability to elicit goals and values from families who have children with life-threatening illnesses. Our curriculum is the first focused on building this communication skill set in graduating medical students who will care for seriously ill children. While similar in content to other MedEdPORTAL curricula on teaching palliative care skills to residents and fellows through simulation,

21,22 it differs in a few key ways. First, the cases have been written to reflect scenarios that pediatric interns are likely to encounter and may be expected to manage early in their training. Second, the small-group discussion prior to the role-play and the heavily facilitated nature of the role-play allow for more complex skills to be introduced and discussed with learners at the medical student level. Finally, it does not require simulated patients. This significantly reduces the financial and logistical hurdles of implementation at other institutions.

We intended the first three learning objectives to be achieved by the medical students. The fourth learning objective, “Gain confidence in teaching communication skills,” was meant to be accomplished primarily by resident facilitators.

We have successfully implemented this session as a part of a larger pediatric boot camp elective for fourth-year medical students who will be caring for children in their residency.
programs, but it could also be implemented as a freestanding course. While we targeted senior medical students as the primary learners, the curriculum would also be appropriate for pediatrics or family medicine interns. This session has been well received since its inception and has not required significant changes.

We have made minor changes to the didactic portion of the curriculum to shorten it and focus on specific communication skills. We have also improved the resident and faculty facilitator guides each year to add clarity to the instructions and more direction for the residents playing the parent role in the role-play. We transitioned to having one instructor lead the drills for the entire large group, as we learned this resulted in optimal clarity and learning. Over time, we found it was important for resident facilitators to practice their role as parent during the facilitator meeting prior to the session. We have noticed the most student growth in responding to emotion using NURSE statements during the role-play; we suspect this is because our drills focused on this skill. In the future, it may be helpful to create drills for other communication tools, such as “I wish... ; I worry....”

The resident facilitators were all volunteers, and thus, all had an interest in communication and palliative care. They had been introduced to NURSE statements and other communication skills during structured residency teaching. We found the facilitator guide and premeeting allowed the resident facilitators to be adequately prepared. We mitigated the risk of residents over- or underacting during the role-play by practicing their roles in the presession meeting and keeping the structure of the role-play highly facilitated by the palliative care faculty member. While ideally we would have utilized 2 or 3 hours (instead of just 1) to prepare resident facilitators for their roles and allow them to practice in order to enhance the students’ experience, our time was limited due to other clinical obligations.

Although we did not have trouble with resident or faculty recruitment at our institution, the implementation of this curriculum elsewhere may be limited by availability of faculty trained in pediatric palliative care and resident schedules, especially at smaller institutions. While the ideal instructor is an expert in pediatric palliative care, this session could be facilitated by providers with expertise in advanced communication. We would recommend considering implementation by pediatric intensivists, pediatric oncologists, or pediatric hospitalists. In addition, the close facilitation required for an optimal educational experience may be more challenging and less intuitive for faculty members who are less familiar with VitalTalk methodology.

This study was limited by our small sample size. We utilized a convenience sample limited to students enrolled in a pediatric boot camp at a single institution over a 3-year period. Because our data were collected from self-reported pre- and postintervention surveys, they were subject to response bias, which could have inflated our findings. We do not have data on the longitudinal effects of this curricula, nor do we have data on intern or resident performance following this intervention at the end of medical school.

Despite these limitations, we feel that this curriculum offers an effective method of teaching complex communication skills to medical students who will be faced with caring for seriously ill children. Future directions include evaluation of sustained improvements in confidence, such as surveying students during their intern year. Ideally, we would also like to obtain more objective performance data utilizing a standardized pediatric patient parent encounter for a goals of care discussion led by the medical student, comparing communication skills of the students who participate in our curriculum to those who do not. We would also consider maximizing interactive time in the session by providing the didactic material online with the expectation that students review beforehand so that the in-person session can be used entirely for communication drills and case-based role-play.
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