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## The Flipped Classroom Paradigm for Teaching Palliative Care Skills

Vyjeyanthi S. Periyakoil, MD and Preetha Basaviah, MD

The Liaison Committee on Medical Education (LCME) standards state that medical education must cover all important aspects of end-of-life (EOL) care [1]. End-of-life care learning is thought to be categorized into formal curriculum taught in lectures; informal curriculum, conveyed through clinical experiences; and “hidden curriculum,” inferred from behaviors and implicit in the culture of biomedicine [2]. Research demonstrates both the need for development of formal curriculum on end-of-life topics and the importance of clinical care experiences with seriously ill patients to prepare medical students to provide quality end-of-life care [3]. Deans of medical schools agree that end-of-life instruction is an important part of the medical curriculum but support an integrative diffusion approach by which EOL instruction is provided as a part of the existing clerkships [4]. While this strategy may sound workable in theory, in practice non-palliative care faculty in the various clerkships do not have specific EOL expertise and thus may not be able to effectively mentor medical students on the core palliative care skills and clinical competencies. Hence, it is vitally important to provide skill-based immersive experiences as a part of preclinical training in palliative care.

We describe Stanford University School of Medicine’s longitudinal approach to effective, skill-based palliative care instruction integrated into the third, fifth, and sixth quarters of preclinical education (see table 1) [5, 6].

We use a variety of immersion learning techniques and experiences based on the flipped classroom model [7]. Our students view online videos to learn new concepts at their own pace and place. Interactive video case quizzes reinforce learning and help deepen their conceptual understanding of the theoretical principles and the evidence base. This frees class time for discussion and clarification of the nuances of materials studied and then solidification of the knowledge through immersive skill-based learning exercises. What follows is an example of an immersive learning exercise devoted to breaking bad news.

*Step 1.* Pre-work: students in the third quarter completed the online video module on the theory of and evidence behind breaking bad news, followed by video vignettes of less- and more-optimal versions of an oncologist’s giving bad news to a patient with metastatic lung cancer.

*Step 2.* Brief large-group refresher of the SPIKES protocol (a six-step technique for communicating well and attending to the patient’s distress while delivering bad news) and nuances of the principles and practice of giving bad news to patients and families.

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*Step 3.* Students split into small groups to watch a professionally filmed, 5-minute video of a palliative care clinician interacting “suboptimally” with a standardized patient and his daughter. The patient has been hospitalized for urosepsis, myocardial infarction, and a new diagnosis of congestive heart failure.

*Step 4.* In small groups, students brainstorm and script out what could have been said or done differently to make the interaction better and more patient-centered.

*Step 5.* One or two volunteers from each small group re-enact the same patient-physician interaction more optimally, drawing from principles learned in the online module and the small group discussions.

*Step 6.* The volunteers split into two groups to film a more optimal version of the interaction. In each group, students take on the parts of the director, producer, and videographer as well as patient, doctor, and the patient’s daughter.

*Step 7.* The student reenactments are watched in the large group and discussed.

*Step 8.* Finally, the students watch a “more optimal” version of the professionally filmed, 5-minute video demonstrating how to skillfully and effectively break bad news.

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## Biographies

Vyjayanthi S. Periyakoil, MD, is a clinical associate professor of medicine at Stanford University School of Medicine in Palo Alto, California, the director of the Stanford palliative care education and training program, and the founder and director of Stanford eCampus. A nationally recognized leader in geriatrics and palliative care, Dr. Periyakoil serves as the associate director of palliative care services for the VA Palo Alto Health Care System. Her research focuses on the health and health care of adult patients with chronic and serious illnesses, multicultural health, geriatrics, ethnogeriatrics, and ethnopalliative care. Dr. Periyakoil can be contacted at periyakoil@stanford.edu.

Preetha Basaviah, MD, is assistant dean of preclerkship education, course director for the Practice of Medicine 2-year doctoring course, associate professor of medicine, and educator for CARE at Stanford University School of Medicine in Palo Alto, California. Dr. Basaviah has scholarly interests in clinical skills curricula, innovations in medical education related to themes in doctoring courses, and faculty development.

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### Highlights

We have been using the flipped classroom model for the last 5 years. Our student feedback has been uniformly positive in the last few years. Students feel that the flipped classroom model is, in one student's words, "very effective in teaching material that is difficult to disseminate via lecture only." Many students stated that watching their classmates enacting the scene gave them a new level of confidence in their own ability to give bad news effectively and have a crucial conversation with patients and families. They then began brainstorming spontaneously about how best to deliver bad news effectively and support patients and families in difficult situations. One student stated that she had been struggling with the death of a real patient. When she played the part of the doctor in the film reenactment, she was able to process the stressful emotions doctors experience and was finally able to reflect on the loss of her patient.

**Table 1**

Stanford University School of Medicine palliative care curriculum 2012–2013

Topic	Length	Goal	Learning Activities
Breaking bad news	3 hours (Q3)	Improve students' ability to break bad news and build their confidence in that ability.	Flipped classroom: <ul style="list-style-type: none"> <li>• Pre-work: 1-hour online video lecture and case study module.</li> <li>• 1-hour 50-minute immersive learning and skill practice.</li> </ul>
Clinical reasoning in diagnosis and management of serious illness	4 hours (Q5)	Understand that sometimes patients die unexpectedly despite having a preventable and treatable illness. Reflect on how adverse patient outcomes can impact doctors.	Case study: <ul style="list-style-type: none"> <li>• Differential diagnosis, assessment, and management of a case of meningitis in a Stanford sophomore.</li> <li>• Video simulation learning followed by debrief.</li> </ul>
Principles of palliative care	6 hours (Q6)	Understand and apply essential practices and principles of palliative care.	Through a variety of activities including mini-didactics, small and large group case discussion, role play, video cases and reflective activities, students: <ul style="list-style-type: none"> <li>• Gain an understanding of how to explore patient and family knowledge of illness, concerns, goals, and values that inform the plan of care</li> <li>• Gain an initial understanding of advance directives and POLST (physician orders for life-sustaining treatment).</li> <li>• Gain an initial understanding of how to identify patients' and families' cultural values, beliefs, and practices related to serious illness and end-of-life care.</li> <li>• Gain an initial understanding of assessment and management of non-pain symptoms.</li> <li>• Complete self-assessment of attitudes related to advance directives.</li> </ul>
Self-care	2 hours (Q6)	Inculcate self-care behaviors as a vital part of professional and personal life in all our medical students.	<ul style="list-style-type: none"> <li>• Define burnout.</li> <li>• List at least three reasons why the medical profession is at high risk for burnout.</li> <li>• Define moral distress and identify the etiology of moral distress.</li> <li>• Define compassion fatigue.</li> <li>• Reflect on the impact of burnout, moral distress and compassion fatigue on your personal well-being and professional productivity.</li> <li>• Identify tools to monitor burnout, moral distress and compassion fatigue in yourself.</li> <li>• List at least one practical strategy that you can implement on an ongoing basis for promoting your self-care and well-being.</li> </ul>