

## Literature and the Arts in Medical Education

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Johanna Shapiro, PhD  
Feature Editor

*Editor's Note:* In this column, teachers who are currently using literary and artistic materials as part of their curricula will briefly summarize specific works, delineate their purposes and goals in using these media, describe their audience and teaching strategies, discuss their methods of evaluation, and speculate about the impact of these teaching tools on learners (and teachers).

Submissions should be three to five double-spaced pages with a minimum of references. Send your submissions to me at University of California, Irvine, Department of Family Medicine, 101 City Drive South, Building 200, Room 512, Route 81, Orange, CA 92868-3298. 949-824-3748. Fax: 714-456-7984. jfshapir@uci.edu.

### Doc-U-Drama: Using Drama to Teach About Patient Safety

Margaret Kirkegaard, MD, MPH; Jeremy Fish, MD

Patient safety has emerged as a significant concern in the American health care system. The Institute of Medicine (IOM) report, *To Err Is Human*, summarized numerous studies documenting the failure of the American health care system to provide safe care.<sup>1</sup> The IOM concluded that between 44,000 and 98,000 deaths each year are attributable to medical errors. More people die each year from medical errors than from breast cancer, AIDS, or motor vehicle accidents.

One would think that such a significant problem as medical errors, with such high morbidity and mortality, would grab the attention of residents in training and spur them to tackle this issue. But in fact, pa-

tient safety has proven to be a thorny subject to teach due to two reasons. The first is that the subject of errors is overlaid with negative emotional content. "To err is human" may be true, but to not talk about errors is even more human. Several studies document that residents experience considerable stress, anger, and guilt due to medical errors.<sup>2</sup> Emotional coping mechanisms include denial, discounting, and distancing accompanied by longlasting and profound doubts.<sup>3</sup> Anxiety about the threat of malpractice litigation further compounds the negative emotions.

The second impediment to learning about patient safety is that addressing patient safety requires a paradigm shift. Borrowing from other high-tech industries such as aviation and nuclear energy, health care has begun to apply human cognitive theory to analyzing medical errors. Most medical errors are not due to careless or incompetent providers at the bedside but are the re-

sult of a series of latent conditions embedded in the complexity of medical care. Preventing errors means designing the health care system at all levels to make it safer. Residents are accustomed to learning new information by studying hard and then working hard to apply their new knowledge in patient care. In the case of patient safety, trying harder will not work. This shift from a "name, blame, and shame" paradigm to a "systems" approach is difficult for residents to assimilate.

We have found that typical learning methods such as didactic lectures or small-group discussions are relatively ineffective in teaching patient safety. Residents find the content (medical errors) emotionally threatening and the solution (system redesign) baffling. Residents prefer experiential or case-based learning, but for medical errors this type of M and M (morbidity and mortality) discussion is too threatening. To improve educational

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From Hinsdale Family Practice, Downers Grove, Ill.

effectiveness, we searched for alternative methods of presenting this material.

Doc-U-Drama or dramatic simulation of medical events involving an error or multiple errors has provided a unique way of presenting this material to residents. We wrote scripts dramatizing real events involving adverse outcomes as the result of a medical error. The scripts portray the complexity of modern medical care. We included roles for multiple health care providers such as the residents, attending physicians, nurses, lab technicians, receptionists, and patients across multiple settings where health care is provided, such as the bedside, clinic, hospital ward, and residents' lounge. The scripts not only convey the words and actions of the individuals but also the feelings of the characters. Here is a small example from one of the scripts:

Float nurse: (speaking to family medicine resident) Can I ask you a question?

Resident: (in a self-disparaging voice, distracted) I don't know if I can give you any good answers.

Float nurse: Well, I'm a little lost here.

Resident: Yeah, don't you usually work in the Nic-U?

Float nurse: Yeah (laughing). I haven't taken care of a patient older than a month for a long time, and today I don't think I have one patient less than 80 years old. Still, sometimes it's nice to have a change of pace. Anyway, Dr Cardio was here earlier and wrote this order for Mrs Hill that I can't read. Can you look at it? (hands family medicine resident the chart)

Resident: That's Dr Cardio alright. It looks like something "K (kay)." You better page him. He's pretty fussy about his orders. How is Mrs Hill today?

Float nurse: She's still in a fib according to the signouts but stable. Well, I already tried to

page Dr Cardio. He's in the cath lab. The tech said that he would call back in a bit. I just thought maybe you would be able to read the order.

This interaction and the many others that are included in the Doc-U-Drama scripts allow the participants to role-play the seemingly benign, everyday interactions that eventually allow errors to occur. In this instance, we see issues such as medical hierarchy, staffing issues, abbreviations, illegible handwriting, and doctor availability that will all contribute to an eventual adverse event. These conditions are so commonplace that most medical professionals consider them "normal" despite the opportunity for errors to occur.

During a learning session, residents are invited to participate in the enactment of the scripts. If attending physicians or other health professionals participate, then dramatic roles are assigned that do not match the participants' professional roles. The scripts are performed unrehearsed. Sometimes simple props such as nurses' hats or charts and signs indicating the various locations are used. Each script typically takes about 15 minutes to perform and is followed by a discussion.

The use of drama has been remarkably effective in engaging residents in learning about medical errors. Drama has been used previously in medical education to explore the doctor-patient relationship or ethical and philosophical questions. These scenarios broaden the focus from the doctor-patient relationship to explore the whole context in which the doctor-patient relationship is embedded. Doc-U-Drama is a vehicle to build the story that surrounds an adverse event. As the participants play the parts, they become engaged in the unfolding events and emotions. The scripts provide the right balance between engagement and anonymity when talking about making mistakes.

Learners are able to experience the emotions of the characters without having to reveal their own past painful experiences involving errors. The creativity of the dramatic production pulls the learners out of their detached analytical mode and promotes creative thinking about medical errors. In feedback surveys, 97% of learners agree that Doc-U-Drama creates an emotionally safe environment for exploring medical errors. Residents report that the experience is fun and requires no preparation such as reading articles or research.

Although the scripts themselves show the complexity of medical care and the conditions that predispose errors to occur, the real learning occurs in the discussion after the performance. Most of the time, the first reaction of the participants is to try to dissect the scenario to see who is to blame for the error. This is generally quite enlightening to the participants because they discover that they disagree about this. The multiple dramatic roles facilitate multiple perspectives of the event. This discussion leads to a developing awareness of latent factors or the set of circumstances that cause providers to err. Factors such as time demands, distractions and interruptions, complicated medical protocols, insufficient training, pressure to perform, inadequacy of supervision, complex communication, and rigid hierarchies are recognized and discussed as latent conditions that contribute to medical errors. In one recent discussion, a resident summarized this realization by concluding that "everyone and no one" was to blame. In feedback surveys, 94% of participants found Doc-U-Drama to be an effective way to learn about medical errors.

Doc-U-Drama has not been subjected to any outcomes analysis to assess the impact on residents' attitudes, knowledge, or skills, but the immediate results have been successful in engaging learners about

systems theory in medicine. In his book *Art and Physics*, Leonard Shlain (a surgeon) describes how artistic vision can stimulate a paradigm shift in scientific thinking. He provides numerous historical examples such as the conic perspectives of Giotto prefiguring the discovery of elliptical orbits and the revolutionary Cubism of Picasso supporting the visionary work of Einstein.<sup>4</sup> Patient safety represents the cusp of another paradigm shift in medical science. We need to look at health care as a complex system

of multiple interactions rather than a series of discrete doctor-patient exchanges. The artistic medium of drama may facilitate this paradigm shift. The unfolding story of Doc-U-Drama places the medical errors in context and stimulates creative thinking about system redesign. The drama is emotionally engaging but also nonthreatening. Learners consistently report that these sessions are “fun” and “feel real.” We recommend Doc-U-Drama as a promising tool for teaching residents about patient safety.

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