## *Innovations in Family Medicine Education*_____

**Joshua Freeman, MD,** Feature Editor
**Alison Dobbie, MD,** Associate Editor

# Promoting Medical Humanism: Design and Evaluation of an Online Curriculum

## John M. Wiecha, MD, MPH; Jeffrey F. Markuns, MD, EdM

*To provide patient-centered care, physicians must be well trained in the concepts and methods of humanistic practice. Educational efforts to promote humanism may help to overcome the counter-training of the hidden medical school curriculum, responsible for a decline in empathy and idealism over the course of medical training. The online component of the clerkship in family medicine at Boston University introduced activities founded on reflection, self-awareness, collaborative learning, and applied practice to successfully promote student confidence in three key areas of humanistic practice.*

(Fam Med 2008;40(9):617-9.)

Patient-centered humanistic care sits at the core of modern family medicine. Medical humanism has been described as fostering relationships with patients that are compassionate and empathetic and includes attitudes and behaviors that are sensitive to the values, autonomy, and cultural and ethnic backgrounds of others.[1] It has been suggested that a hidden curriculum in medicine is responsible for a decline in empathy over the course of medical training.[2-4,5] Education that promotes humanism may help

to overcome the counter training of this hidden curriculum.

A learning cycle of practice, feedback, and reflection can help medical students learn and incorporate important concepts into both their current and future practice.[6-8] Teaching methods used to promote the reflective process have usually included some degree of face-to-face interaction with an instructor. These include journal writing, exercises in narrative medicine, and small-group discussion.[7,9] Successful translation of these methods to an online setting could provide a novel method for stimulating reflection in a distance education format.

We have a traditional third-year required clerkship in family medicine, with an emphasis on ambulatory care and a reliance on office-based preceptors located throughout New England. Our online clerkship (OC) was developed to promote standardization of learning across multiple community-based learning sites. The development and components of our OC have been described.[10,11] It introduced to the clerkship a focus on medical humanism using new educational strategies and technology, including asynchronous faculty-moderated online discussions. The objectives of this component of the OC were to improve

From the Department of Family Medicine, Boston University.

student competence in three related areas: cultural competence, empathy (with a focus on understanding the impact of illness on patients), and assessing nonadherent patients nonjudgmentally. The curriculum was evaluated using a randomized design to determine the impact on students' self-assessed competence in these three key areas. The OC is delivered on Blackboard's CourseInfo® software.

## Methods

The OC design was guided by educational psychology principles, including concepts of adult learning and reflective and collaborative learning.[12,13] This curriculum is unique in that it follows a deliberate sequence of educational activities to promote reflection and interaction among students and faculty and requires learners to apply concepts from the online course to real patient encounters.

This project used our HEAL (Heuristic for Electronic Asynchronous Learning) approach[8] to e-learning instructional design. This method is based on theories that learning is facilitated by independent problem solving, investigation, and discovery, that collaboration between students fosters learning, and that the educational cycle of practice, feedback, and reflection are "integral to the interrelated domains of skills development and personal awareness".[14] HEAL brings these principles to online medical education by integrating three learning activities: study of written material posted online to learn theory and concepts, application of concepts to real patients to develop skills, and an online reflective journal and discussion activity with faculty and peers. Faculty trained in moderating online groups facilitate these discussions.

### Week by Week Description

Week 1: Students post to the discussion board a description of their practice and learning style,

and details about their clerkship placement site.

Week 2: Students read a case study describing management of nonadherent patients, including formulation of a differential diagnosis for nonadherence. Students then identify a real patient in their practice with adherence problems, discuss the issue with the patient, formulate a differential diagnosis, and post this (minus all patient identifiers) to the discussion board for review and commentary by other students and faculty.

Week 3: Students review the Kleinman approach to promoting cultural competence.[15] This method of improving culturally competent care emphasizes enhanced doctor-patient communication via the use of specific questions posed to the patient designed to elucidate the meaning and impact of their illness. Students in the OC learn and use the Kleinman questions with a real patient and post their experience and reflections to the private discussion board.

Week 4: Students read a narrative case study on empathy[16] and reflect on the reading and how it applies to the students' experiences, followed by a posting addressing these issues.

Week 5: A narrative article on idealism is posted[17] for student review, reflection, and commentary online.

Week 6: Students may post a description of a notable case they have seen or describe their experience during a required home visit.

### Evaluation

The evaluation data were gathered from third-year medical students participating in the eight 6-week long blocks of the Boston University family medicine clerkship. Students in even-numbered clerkship blocks were assigned to the online clerkship. Students in odd-numbered blocks participated only in our conventional face-to-face curriculum, which included small-group, case-based

discussions, but it did not include a reflective writing activity or online work. Clerks in both groups completed surveys before and after the clerkship on self-assessed competence in the areas of focus. Competence was self-assessed using a 5-point Likert scale. Students were also asked to report their satisfaction with the ease of use of the online clerkship, also via a 5-point scale. Curriculum and evaluation methods were approved by the university's Institutional Review Board.

## Results

The evaluation was completed by 159 (88.3%) clerkship students, with a similar response rate in both groups. Students reported spending an average of 4.3 hours weekly on all three activities in the online clerkship.

Students in the online group showed a greater increase, from before to after, in self-reported ability in each of the three curricular domains (Table 1). In each of the domains, online student self-assessment increased about one step in the 5-point scale (from 3 to 4) versus a 0.5 step increase (from 3 to 3.5) for comparison students. Fifty-eight percent of students agreed that the online curriculum was easy to use, 24% were neutral, and 18% disagreed.

### Limitations

In this project, we measured self-assessed competence (self-efficacy), not actual or observed performance of humanistic attributes of medical practice. Measurement of clinical performance was well beyond the scope of this project. Although there is controversy over the relationship between self-efficacy and actual performance, educators do recognize that self-efficacy is a contributor to performance competence, irrespective of what the underlying skills might be.[18] It has also been observed empirically that competent performance requires not only relevant knowledge and

Table 1

Change in Self-reported Student Competence From Before to After the Clerkship

| | *Change in Self-reported Competence** | | | | | | *Difference in Gain (%)* |
| | *Control Group* | | | *Intervention Group* | | | |
| **Domain of humanistic practice** | *Decreased n (%)* | *No Change n (%)* | *Gained n (%)* | *Decreased n (%)* | *No Change n (%)* | *Gained n (%)* | *(Intervention - Control)* |
|---|---|---|---|---|---|---|---|
| Identifying factors contributing to patient noncompliance | 9 (8.8%) | 43 (42.2%) | 50 (49.0%) | 5 (4.5%) | 29 (25.9%) | 78 (69.6%) | 20.6%** |
| Integrating patient's cultural beliefs about health into your care of that patient | 11 (10.7%) | 41 (39.8%) | 51 (49.5%) | 6 (5.4%) | 25 (22.3%) | 81 (72.3%) | 22.8%** |
| Eliciting how a patient has been emotionally impacted by an illness | 14 (13.5%) | 42 (40.4%) | 48 (46.2%) | 8 (7.1%) | 28 (25.0%) | 76 (67.9%) | 21.7%** |

\*   Self-reported competence measured by 5-point scale, from 1=complete novice to 5=expert
\*\* *P* value <.01

skills but also a measure of personal efficacy to apply both effectively.[19] In a study that examined correlations between an attribute of humanistic practice (empathy), self-perceived ability was associated with actual ability.[20]

## Discussion

This curriculum and evaluation demonstrates that student confidence in key clinical skills related to humanistic practice can be improved with a carefully designed online curriculum that integrates didactics, opportunities for clinical practice, and a reflective writing activity.

A student posting to the discussion board demonstrated the effectiveness of this activity for one student when she wrote that the curriculum " . . . really opened my eyes to the different ways people perceive illness, and it also showed me that I could not make any assumptions or judgments based on my own notions." Using widely available tools, we were able to create a simple and interactive curriculum on key elements of humanistic practice based on sound educational principles, including opportunities for practice and reflection.

*Corresonding Author:* Address correspondence to Dr Wiecha, Boston University, Department of Family Medicine, Dowling 5 South, Boston Medical Center, 1 BMC Place, Boston MA 02118. John.Wiecha@Bmc.org

REFERENCES

1. The Arnold P. Gold Foundation. http://humanism-in-medicine.org. [cited May 15, 2008]
2. Hafferty FW. Beyond curriculum reform: confronting medicine's hidden curriculum. Acad Med 1998;73(4):403-7.
3. Diseker RA, Michielutte R. An analysis of empathy in medical students before and following clinical experience. J Med Educ 1981;56(12):1004-10.
4. Chen D, Lew R, Hershman W, Orlander J. A cross-sectional measurement of medical student empathy. J Gen Intern Med 2007;22(10):1434-8.
5. Hojat M, Mangione S, Nasca TJ, et al. An empirical study of decline in empathy in medical school. Med Educ 2004;38(9):934-41.
6. Schön DA. The reflective practitioner: how professionals think in action. New York: Basic Books, 1983:374.
7. Plack MM, Greenberg L. The reflective practitioner: reaching for excellence in practice. Pediatrics 2005;116(6):1546-52.
8. Wiecha JM, Vanderschmidt H, Schilling K. HEAL: an instructional design model applied to an online clerkship in family medicine. Acad Med 2002;77(9):925-6.
9. Charon R. Narrative and medicine. N Engl J Med 2004;350(9):862-4.
10. Schilling K, Wiecha JM, Polineni D, Khalil S. An interactive Web-based curriculum on evidence-based medicine: design and effectiveness. Fam Med 2006;38(2):126-32.
11. Wiecha JM, Chetty VK, Pollard T, Shaw PF. Web-based versus face-to-face learning of diabetes management: the results of a comparative trial of educational methods. Fam Med 2006;38(9):647-52.
12. Stagnaro-Green A. Applying adult learning principles to medical education in the United States. Med Teach 2004;26(1):79-85.
13. Novack DH, Epstein RM, Paulsen RH. Toward creating physician-healers: fostering medical students' self-awareness, personal growth, and well-being. Acad Med 1999;74(5):516-20.
14. Association of American Medical Colleges. The Medical School Objectives Writing Group. Report III: contemporary issues in medicine. Communication in medicine. 2000. www.aamc.org/meded/msop/report3.htm. Accessed January 20, 2008.
15. Kleinman A, Eisenberg L, Good B. Culture, illness, and care: clinical lessons from anthropologic and cross-cultural research. Ann Intern Med 1978;88(2):251-8.
16. Horn MO. The other side of the bed rail. Ann Intern Med 1999;130(11):940-1.
17. Dyer KA. Toxic intern syndrome. West J Med 1994;160(4):378-9.
18. Katz S, Feigenbaum A, Pasternak S, Vinker S. An interactive course to enhance self-efficacy of family practitioners to treat obesity. BMC Med Educ 2005;5(1):4.
19. Mavis B. Self-efficacy and OSCE performance among second-year medical students. Adv Health Sci Educ Theory Pract 2001;6(2):93-102.
20. Kunst-Wilson W, Carpenter L, Poser A, Venohr I, Kushner K. Empathic perceptions of nursing students: self-reported and actual ability. Res Nurs Health 1981;4(3):283-93.