



Highlights From ACADEMIC MEDICINE

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How Does Medical Students' Empathy Change During Training?

Empathic communication skills promote patient satisfaction and adherence to treatment plans, while decreasing the likelihood of malpractice suits. However, studies have indicated that medical school may have a detrimental effect on ethical and moral development and other aspects of students' professional growth. Bruce W. Newton, PhD, and associates conducted a study to examine the longitudinal effect of medical education on vicarious empathy—the response to the perceived emotional experiences of others. They designed the study to determine whether vicarious empathy decreases as students progress through medical school, and whether students choosing specialties with greater patient contact maintain vicarious empathy better than do students selecting specialties with less patient contact.

Data for the study were gathered from one medical school in the south-central United States. Students in four classes completed surveys at the beginning of each of their four years of medical school (M1–M4). The survey instrument was the Balanced Emotional Empathy Scale (BEES), a measure of the vicarious emotional qualities of empathy. Using the students' responses to the BEES, the investigators analyzed the changes in the students' vicarious empathy by gender across their first three years of medical school. As the questionnaire was administered at the start of each academic year, the M1 data provided a baseline empathy score.

Overall, the researchers found that the first three years of medical education sig-

nificant decreased students' vicarious empathy. The decline occurred in students choosing both core and noncore specialties, with significant decreases during both the first basic science year and the first clinical year. The investigators posit that the decline may constitute a coping mechanism, whereby empathic feelings are suppressed, which may make it easier for students to deal with patients on a daily basis. Therefore, the authors propose that empathy should be continually reinforced by the use of role-playing throughout students' education, and be periodically reinforced during their residency training, as well as during their practice as physicians.

Newton BW, Barber L, Clardy J, Cleveland E, O'Sullivan P. *Is there hardening of the heart during medical school?* Acad Med 2008;83(3):244–249.

Trainees' Attitudes and Experiences in Disclosing Medical Errors to Patients

Even though patients endorse the disclosure of harmful medical errors, such disclosure seems to be uncommon. There is little data regarding trainees' attitudes about and experiences with medical errors, or their experience in disclosing errors to patients. However, the available literature suggests that most trainees have been personally involved with errors and that discussing these with patients presents substantial challenges. Andrew A. White, MD, and colleagues performed a multicenter cross-sectional survey of trainees to explore their attitudes and experiences with medical errors and their disclosure.

The questionnaire, which used the Institute of Medicine's definitions of "adverse event," "medical error," and "near miss," asked respondents—medical students, interns, and residents—about key safety topics, such as whether medical errors are a serious problem and how frequently these errors occur. Question topics

included what types of errors should be disclosed, potential barriers to disclosure, and respondents' personal experiences with errors and their disclosure.

Most respondents agreed that medical error is one of the most serious problems in health care, and believed that there are relatively common. Most respondents also reported personal involvement with errors. Although virtually all trainees agreed that serious errors should be disclosed to patients, almost all felt that disclosure would be difficult, and only one-third of residents reported ever disclosing a serious error to a patient. Only about one-third of trainees said that they had received education in error disclosure techniques, although almost all said that they were interested in such training.

The authors conclude from these results that trainees perceive significant barriers to error disclosure and that they will enter practice without adequate disclosure skills unless new training programs are implemented. They say that medical educators and institutions should develop and disseminate formal disclosure guidelines regarding the role of trainees in the disclosure process. Disclosure education should include formal lecture material, coaching from attending physicians, and the opportunity to practice disclosure skills and receive feedback.

White AA, Gallagher TH, Krauss MJ, et al. *The attitudes and experiences of trainees regarding disclosing medical errors to patients.* Acad Med 2008;83(3):250–256.

How Can Bedside Teaching Be Improved?

It seems logical that many clinical skills are better learned at the bedside than in the classroom. However, the proportion of clinical educational time devoted to bedside teaching has not gone above 19% since the 1960s. Keith N. Williams, MD, MSME, EdM, and co-workers conducted focus group discussions with medical students and residents to explore learners' attitudes toward bedside teaching, perceptions of barriers, and strategies to increase the frequency and effectiveness of bedside teaching.

Questions posed to the focus groups included open-ended questions on whether

trainees learned from bedside teaching and, if so, what they had learned; the quality of bedside teaching they had received; and their views on barriers to bedside teaching and suggestions for increasing its effectiveness.

Learners believed that bedside teaching is valuable—if not essential—for learning skills related to physician-patient communication, physical examination, clinical reasoning, and professionalism. They felt that bedside teaching is underutilized and that there are many missed opportunities for bedside teaching. Barriers to bedside teaching were classified as personal, interpersonal, or environmental. Overarching categories of barriers to bedside teaching included lack of respect for the patient; time constraints; learner autonomy; faculty attitudes, knowledge, and skill; and overreliance on technology.

Participants provided a number of insightful suggestions to increase and improve bedside teaching. These included:

- ❖ Orient and include the patient.
- ❖ Address time constraints through flexibility, selectivity, and integration.
- ❖ Provide learners with reassurance, reinforce their autonomy, and incorporate them into the teaching process.
- ❖ Develop faculty attitudes, knowledge, and skill for bedside teaching.
- ❖ Advocate evidence-based diagnosis.

The researchers conclude that bedside teaching is consistent with the experiential learning principles of the progressive movement in medical education, and is compatible with the modern theory of contextual learning. Future research should determine whether faculty development directed at improving bedside clinical and teaching skills could enhance bedside teaching and should focus on a variety of learner outcomes.

Williams KN, Ramani S, Fraser B, Orlander JD. *Improving bedside teaching: findings from a focus group study of learners.* Acad Med 2008;83(3):257–264.

Validity and Reliability of CME Evaluation Methods

Medical boards require between 12 and 50 hours of continuing medical education

(CME) per year for continued licensure. It is up to medical educators to identify the most effective CME tools and techniques. Evaluation methods must have strong evidence for both validity and reliability to establish CME effectiveness. Neda Ratanawongsa, MD, MPH, and colleagues investigated the reported validity and reliability of various methods that have been used to measure the effects of CME.

The researchers examined the literature to find trials of CME effectiveness that had randomized, controlled designs with comparison groups; were conducted in the United States or Canada and written in English; and were published between 1981 and 2006. In the survey they included articles that reported the validity or the reliability of at least one evaluation method.

A total of 136 articles were included in the review, in which 62 evaluation methods were accompanied by validity or reliability data; these evaluated knowledge or cognitive skills, attitudes, skills, practice behaviors, and clinical outcomes. Of the 62 methods, 16 (25.8%) included descriptions of validity alone, 30 (48.4%) included descriptions of reliability alone, and 10 (16.1%) had descriptions of both validity and reliability.

The authors state that the overall strength of evidence for CME effectiveness is limited by the lack of reported evidence of the validity and reliability of evaluation methods. They recommend the following, among other suggestions, for improving the quality of future CME studies:

- ❖ Curriculum designers should delineate and report specific measurable educational objectives, congruent with their specified outcomes.
- ❖ Researchers should target clinical outcomes.
- ❖ Educational researchers should consider the theory related to their targeted outcomes and the factors associated with them.
- ❖ Researchers should more rigorously assess content validity for new instruments.
- ❖ Educators should conduct pilot or cognitive testing of new instruments.

Ratanawongsa N, Thomas PA, Marinopoulos SS, et al. *The reported validity and reliability*

of methods for evaluating continuing medical education: a systematic review. Acad Med 2008;83(3):274–283.

Parental Responses to Involvement in Pediatric Rounds

The care of pediatric patients in teaching hospitals presents numerous challenges. Children's Hospital and Regional Medical Center (CHRMC) in Seattle instituted a system of interdisciplinary rounds in the inpatient medical unit as a method of improving quality. Linda C. Latta, RN, PhD, CNAA, and associates conducted a study to determine how parents responded to participation in interdisciplinary teaching rounds at CHRMC.

The qualitative descriptive study used data obtained from semistructured interviews with 18 parents, who were interviewed after their participation in rounds. Questions were designed to determine the experience of parents related to their participation in rounds, to find out what parents expected to accomplish during rounds, and to determine the style of communication that would be most helpful to parents to enable them to understand their child's treatment plan.

Three themes emerged in the responses: communication, participation, and teamwork. Understanding their child's condition was the most common response mentioned when parents were asked what they wanted to accomplish on rounds. Parents stated that they liked being asked to participate in rounds and felt more comfortable when they were asked their opinions or whether they had questions. Seeing the medical team work together, and being considered part of the team, was also mentioned as important.

The authors state that the obvious benefit of including parents on rounds is the opportunity for direct communication. When the team works together to encourage parents' presence, and communicates with them in a way they can understand, parents will experience positive outcomes.

Latta LC, Dick R, Parry C, Tamura GS. *Parental responses to involvement in rounds on a pediatric inpatient unit at a teaching hospital: a qualitative study.* Acad Med 2008;83(3):292–297.