

AHRQ Web M&M Feb 2011 Perspective

## **The University of Texas System Clinical Safety and Effectiveness Course**

### **Perspective**

**by Eric J. Thomas, MD, MPH; Jan Patterson, MD, MS; Sherry Martin, MEd; Doris Quinn, PhD; Gary Reed, MD; Ken Shine, MD**

Health care in the United States is undergoing profound changes due to societal demands to improve the quality of care and simultaneously reduce costs. Hospitals and office practices are responding by using quality improvement (QI) tools developed in other industries and successfully applied in health care. As noted by leading experts, "The application of improvement tools is not only essential to modernizing care delivery but also the key to preserving the values to which our current system aspires."<sup>(1)</sup>

Unfortunately, most front-line caregivers complete their professional training with almost no exposure to even rudimentary QI concepts or methods.<sup>(2-5)</sup> To address this need, a few programs have been developed for practicing physicians and other caregivers to teach them how to improve quality (Table). These programs are targeted at professionals who have finished training, are not degree granting, and focus on relatively quick acquisition of practical skills and concepts. The model for many of these courses is the Advanced Training Program led by Brent James at Intermountain Healthcare.<sup>(10,13)</sup>

The University of Texas MD Anderson Cancer Center began such a course in 2005 (The Clinical Safety and Effectiveness Course [CS&E]), and its success led us to implement courses in four of the six health campuses in the

University of Texas system. This perspective provides an overview of our experience, and we compare and contrast our program with others in order to inform efforts by other universities and health care systems that want to address this urgent need.

## **Background and Curriculum of the University of Texas Clinical Safety and Effectiveness Course**

The University of Texas System has six health campuses: UT Health Science Center at Houston, UT Medical Branch at Galveston, UT Southwestern Medical Center at Dallas, UT Health Science Center at San Antonio, UT MD Anderson Cancer Center, and UT Health Science Center at Tyler. The purpose of the CS&E course is to provide physicians, other key clinicians, and administrators the skills and knowledge required to lead breakthrough change initiatives. After initial success at UT MD Anderson Cancer Center, all presidents of the UT System health care institutions approved a proposal in 2007 to develop and implement CS&E programs on their own campuses. A UT CS&E Steering Committee with representatives from each campus was established to provide oversight for the course expansion, and in 2008 the University's Regents provided funding from the UT System's malpractice liability reserve fund.

The curriculum focuses on quality concepts and evidence-based medicine, including variation, guideline development, history of quality management, health services research, data management, quality tools, teamwork, health policy and economics, project management, and return-on-investment. A key factor is our effort to align the classes' QI projects with the strategic goals of each organization. Thus, students are nominated by their supervisor or other leaders, and then selected by a committee. Explicit support by the student's supervisor is critical given the significant time investment. Each

project is closely supervised by course leaders. Students must create high-quality aim statements, utilize performance improvement tools (fishbone diagrams, Pareto charts, etc.), and have explicit, measurable outcomes.

Although we began with a single idea, each campus subsequently customized the curriculum to draw upon local strengths and address local needs. For example, at UT Houston, the course draws heavily upon Six Sigma because two Six Sigma Master Black Belts from the primary teaching hospital (Memorial Hermann Texas Medical Center) help lead the course. It is also focused on developing physician leaders because there was already an adequate number of Six Sigma-trained, non-MD health care professionals at Memorial Hermann. At UT Houston, the CS&E course can also be taken for credit by students who are working on a Masters in Clinical Research. In contrast, UT HSC San Antonio's program focuses on interprofessional teams from the university faculty practice and affiliated hospitals. Continuing medical education is now being offered as a part of the course. The San Antonio course has also led to development of QI curriculum for medical and nursing students, and for residents. At UT Southwestern, the program is given in collaboration with Parkland Health and Hospital System and Children's Medical Center, where several of the participating faculty have completed the Intermountain Healthcare Advanced Training Program. This course relies heavily on these experienced clinicians as well as local experts in Six Sigma, Lean, and crew resource management. At MD Anderson Cancer Center, the CS&E course is a springboard to the "Quality College"—several advanced courses in QI methods.

### **Outcomes to Date**

As of May 2010, there are 577 graduates of the UT CS&E course (UT MD Anderson Cancer Center = 379; UT Health Science Center San Antonio = 63;

UT Health Science Center Houston = 39; UT Southwestern = 37; UT Medical Branch in Galveston = 52; and UT Health Science Center Tyler = 7). The two campuses without their own courses (Galveston and Tyler) have been sending faculty to the MD Anderson course. The graduates have completed 260 QI projects.

In October 2010, we held the first annual UT CS&E conference and recognition event, hosted by the UT System. The purpose was to encourage sharing and collaboration of QI methods across the system and to further educate attendees by presentations from national experts. The conference had 230 participants, including 60 CS&E graduates who presented peer-reviewed abstracts. Evaluations were positive: 96% felt the conference "met or exceeded their expectations," and 86% stated that they "intend to make a change by applying the information learned."

Graduates are being promoted to leadership positions (e.g., physician medical directors), leading efforts to add quality and safety teaching into health professional curricula, leading additional QI projects, and presenting at national meetings. Course graduates are mentoring students as they participate in regional and national QI organizations, such as the Institute for Healthcare Improvement's Open School. A small number of medical students have also taken the CS&E course. A less quantitative, but extremely important outcome is that the course often gives frustrated and demoralized physicians the skills they need to do what they have always wanted: to provide high-quality care. This often leads to a renewed commitment to, and enjoyment of, their profession.

## **Challenges and Future Directions**

We are still working toward our goal of having a course based at each campus while also sharing resources across sites, such as using

videoconferencing for some speakers. Another challenge is how to encourage each site to develop its unique strengths and resources without straying too far from the successful core curriculum developed by Brent James and UT MD Anderson Cancer Center. The course also needs to develop a sustainable financial model. The primary cost at each site is time for course directors, instructors, administrative support, and performance improvement expertise to help with each project. Potentially, health care organizations that accrue savings from the projects can use that to reinvest into the course. Our course, and others, would also benefit from tying the course goals to a more robust set of measurable outcomes. The [Table](#) presents some outcomes of similar courses, and also compares the courses' duration, target populations, and curricula. Finally, some of our institutions are revising promotion and tenure criteria to explicitly acknowledge QI as an activity that is counted toward promotion and tenure.(14)

**Eric J. Thomas, MD, MPH**

Griff T. Ross Professor in Humanities and Technology

Director, UT Houston-Memorial Hermann Center for Healthcare Quality and Safety

Professor of Medicine

University of Texas Medical School at Houston

**Jan E. Patterson, MD, MS**

Professor and Associate Dean for Quality and Lifelong Learning

University of Texas Health Science Center at San Antonio

**Sherry Martin, MEd**

Chancellor's Healthcare Fellow in Clinical Safety and Effectiveness

The University of Texas System

## **Doris Quinn, PhD**

Director, Process Improvement and Quality Education  
Department of Performance Improvement  
University of Texas MD Anderson Cancer Center

## **Gary Reed, MD**

Chief Quality Officer, UT Southwestern Health System  
Professor of Internal Medicine  
University of Texas Southwestern Medical School

## **Kenneth I. Shine, MD**

Executive Vice Chancellor for Health Affairs  
The University of Texas System

## **References**

[Back to Top](#)

1. Swensen SJ, Meyer GS, Nelson EC, et al. Cottage industry to postindustrial care—the revolution in health care delivery. *N Engl J Med*. 2010;362:e12. [\[go to PubMed\]](#)
2. Alper E, Rosenberg EI, O'Brien KE, Fischer M, Durning SJ. Patient safety education at U.S. and Canadian medical schools: results from the 2006 Clerkship Directors in Internal Medicine survey. *Acad Med*. 2009;84:1672-1676. [\[go to PubMed\]](#)
3. Leape L, Berwick D, Clancy C, et al; Lucian Leape Institute at the National Patient Safety Foundation. Transforming healthcare: a safety imperative. *Qual Saf Health Care*. 2009;18:424-428. [\[go to PubMed\]](#)
4. Pronovost PJ, Miller MR, Wachter RM, Meyer GS. Perspective: physician leadership in quality. *Acad Med*. 2009;84:1651-1656. [\[go to PubMed\]](#)
5. *Unmet Needs: Teaching Physicians to Provide Safe Patient Care*. Boston, MA: Lucian Leape Institute at the National Patient Safety Foundation; March 2010. [\[Available at\]](#)

6. Splaine ME, Ogrinc G, Gilman SC, et al. The Department of Veterans Affairs National Quality Scholars Fellowship Program: experience from 10 years of training quality scholars. *Acad Med.* 2009;84:1741-1748. [[go to PubMed](#)]
7. Filardo G, Nicewander D, Hamilton C, et al. A hospital-randomized controlled trial of an educational quality improvement intervention in rural and small community hospitals in Texas following implementation of information technology. *Am J Med Qual.* 2007;22:418-427. [[go to PubMed](#)]
8. Haydar Z, Gunderson J, Ballard DJ, Skoufalos A, Berman B, Nash DB. Accelerating Best Care in Pennsylvania: adapting a large academic system's quality improvement process to rural community hospitals. *Am J Med Qual.* 2008;23:252-258. [[go to PubMed](#)]
9. Filardo G, Nicewander D, Herrin J, et al. A hospital-randomized controlled trial of a formal quality improvement educational program in rural and small community Texas hospitals: one year results. *Int J Qual Health Care.* 2009;21:225-232. [[go to PubMed](#)]
10. 20-Day Course for Executives and QI Leaders—Advanced Training Program (ATP). Institute for Health Care Delivery Research. Intermountain Healthcare, Salt Lake City, UT. [[Available at](#)]
11. Advanced Training Program (ATP) in Health Care Delivery Improvement. Institute for Healthcare Improvement. Intermountain Healthcare, Salt Lake City, UT. [[Available at](#)]
12. Walsh KE, Ettinger WH, Klugman RA. Physician quality officer: a new model for engaging physicians in quality improvement. *Am J Med Qual.* 2009;24:295-301. [[go to PubMed](#)]
13. Leonhardt D. Making health care better. *New York Times.* November 3, 2009. [[Available at](#)]

14. Shojania KG, Levinson W. Clinicians in quality improvement: a new career pathway in academic medicine. JAMA. 2009;301:766-768. [[go to PubMed](#)]

## **Table**

[Back to Top](#)

**Table. Overview of some quality improvement courses in the United States for caregivers who have completed training. (PDF, 93K)**

(Go to table citation in the text)

<http://www.webmm.ahrq.gov/perspective.aspx?perspectiveID=98>