Rationale
Health professions students are an untapped resource in patient safety and quality improvement circles largely because they lack formal education and experience in quality improvement. In creating the course, Fundamentals of Quality Improvement in Health Care, we sought to provide students with an introduction to quality improvement science in a healthcare setting so that they may engage in quality improvement work during the latter years of their study and be better prepared for a health professions career that demands participation in quality improvement work.

Objective
The elective course, Fundamentals of Quality Improvement in Health Care, will challenge students to think in an interdisciplinary manner when problem solving for quality improvement and will provide students with models and team-building strategies for leading quality improvement initiatives in a variety of organizational settings.

Description
In Fundamentals of Quality Improvement in Health Care, students from the Vanderbilt Owen School of Management, Vanderbilt University School of Medicine, and Vanderbilt University School of Nursing will work together as a class and also in teams of 5-6 to facilitate interdisciplinary learning. Topics to be covered in the course include: fundamentals of quality improvement science, leadership and teambuilding for quality improvement, change management, organizational design for the continuous learning organization, using information technology to improve quality, and the business case for quality improvement. Students will also hear from a family affected by a significant medical error; visit the Vanderbilt University Hospital Emergency Department to practice mapping process flow in a delivery setting; and attend a departmental Morbidity, Mortality, and Improvement (MM&I) conference. Each session will be led by a different speaker who is an expert in the topic of the class.

Components

Traditional Lectures
- “Introduction to Quality Improvement”
- “Contemporary Quality Improvement & Patient Safety Initiatives”
- “The Business Case for Quality”
- “Models for Quality Improvement”
- “Measurement of Quality Improvement Initiatives”
- “Using IT to Improve Quality”

Large Group Interactive Sessions
- “Humanizing Errors”
- MM&I conference discussions (3 sessions for 3 conferences)

Case-Based Discussions
- “Leadership & Teambuilding for Quality Improvement”
- “Designing Systems that Improve Safety”
- “The Continuous Learning Organization”

Small Group Exercises
- AHRQ Web M&M team case review, analysis, and discussion (3 sessions for 6 total cases)
- Final team presentations using Institute for Healthcare Improvement (IHI) cases requiring root cause analysis and design of a PDSA cycle

Experiential Learning and Immersion:
- “ED Visit & Process Flow Exercise”
- Attendance at departmental MM&I conferences

Innovative Characteristics
1. Emphasis on an Interdisciplinary Team-Based Approach to Quality Improvement
   - Students are assigned to interdisciplinary teams during the second session of the course in order to maximize diversity in disciplinary perspectives
   - Teams engage in active discussion and problem-solving in a variety of scenarios throughout the course
   - One of the few courses in the country that provides a truly first-hand interdisciplinary experience for management, medical, and nursing students to work together on quality improvement and safety issues
   - In its inaugural year of the course, Fundamentals of Quality Improvement in Health Care has 49 enrolled students from three graduate schools (29 management, 13 medicine, and 7 nursing)

2. Conceived, Designed, and Executed by Students for Students
   - Student-driven course that is conceived, designed, and managed by a group of Vanderbilt management, medical, and nursing students with the assistance and oversight of faculty from these three schools
   - Course was designed in a series of weekly meetings that began taking place in December 2009 and continue to take place currently

3. Speakers and Facilitators Representing Law, Management, Medicine, Nursing, Public Health, and the Community of Patients
   - Features a diverse set of speakers and discussion/exercise facilitators representing the fields of law, management, medicine, nursing, public health, and our community of patients
   - Speakers affiliated with health care facilities come from a mix of settings: academic medical centers, teaching hospitals, and community hospitals

4. Course Content That Examines Quality Improvement from Multiple Perspectives
   - Examines quality improvement from a number of different perspectives in order to illustrate its importance and relevance to multiple constituents of the health care system, including: historical and modern-day contexts, policy and cost perspective, patient perspective, methodology and measurement perspective, and implementation perspective

5. Approach that Combines Proven Pedagogical Methods
   - Combines a number of proven pedagogical methods in order to teach content, including: traditional lectures, large group interactive sessions, case-based discussions, small group exercises, and experiential learning and immersion

Syllabus