Empowering Medical Students to Improve Patient Care in the Clerkship Curriculum

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Background

As the complexity of healthcare delivery continues to grow, medical schools have increasingly sought opportunities to teach principles of quality improvement to students. In 2014, the Association of American Medical Colleges listed “identifying system failures and contributing to a culture of safety and improvement” as a core entrustable professional activity (EPA) that medical school graduates should be able to perform on their first day of residency1. While many medical schools have found ways to integrate quality improvement into didactic and elective curricula2,3, there has been limited success in engaging all medical students in quality improvement initiatives throughout their third-year clerkships.

Aims

- To have all medical students at Boston University School of Medicine participate in a department-defined quality improvement/project safety initiative during each of their third-year clerkships and cumulatively perform quality interventions with 2,500 patients during the 2015-2016 academic year
- Inspire student engagement in and knowledge of how safety and quality goals are transmitted into improved patient care
- Provide leadership opportunities for medical students with career interests in quality improvement and patient safety
- Reduce health disparities and improve the health and experiences of patients cared for by medical students at Boston University School of Medicine

Methods

Each of the core clerkship departments was asked to design an improvement process that involved third-year medical students and is tied to local, institutional, or national quality improvement or patient safety benchmarks related to the Institute of Medicine’s Six Aims for Improvement4.

- Clerkship departments have assembled teams with at least one student leader and one faculty advisor in order to design and implement their student quality initiatives.
- Many teams also have additional student and resident leaders
- Clerkship students are expected to actively participate in these improvement processes with patients and to record and submit data that is pertinent to monitoring process, balancing, and outcome measures.
- Student quality leaders regularly analyze their measures and meet with faculty advisors in order to drive continuous cycles of change, using the Institute for Healthcare Improvement’s “Model for Improvement” as a framework.

Clerkship Project Descriptions

Obstetrics and Gynecology

Project Title: Prevention of Venous Thrombotic Events in Pregnant Patients
Population: Pregnant women cared for by students at all clinical sites
Intervention: Students calculate obstetric patients’ risk of venous thrombotic events (VTEs) and work with their teams to put in place appropriate prophylactic measures. Following this, students provide patient counseling regarding the recommended interventions.

Pediatrics

Project Title: Addressing Health Disparity by Increasing In-Person Interpreter Participation During Family-Centered Morning Rounds
Population: Non-English speaking pediatric inpatients and family members cared for by students at Boston Medical Center
Intervention: Students complete a newly designed daily rounding form that is used to better anticipate the need for and schedule in-person interpreters for family centered rounds.

Internal Medicine

Project Title: Medical Student Enhanced Patient Education
Population: Medicine patients cared for by students at all inpatient clinical sites
Intervention: Aiming to combat the negative effects of limited patient health literacy, students review appropriate discharge education learning points with a supervising physician and then use a checklist tool to provide systematic patient education prior to discharge. As part of this process, students assess patient understanding of their health and treatment plan both before and after the teaching intervention.

Psychiatry

Project Title: Smoking Cessation Counseling by Third Year Psychiatry Clerk
Population: Psychiatry patients at all clinical sites that are cared for and identified by students as being appropriate for tobacco cessation counseling
Intervention: Students use the patient’s stage of change, provide a brief targeted intervention based on USPTF and AAP guidelines, and ensure the patient has been offered Nicotine Replacement Therapy in accordance with HEDIS measure for tobacco cessation.

Family Medicine

Project Title: A Tool for Guiding Outpatient Management of Hypertension
Population: Family medicine patients with a diagnosis of hypertension that are cared for by students at all outpatient clinical sites
Intervention: Students use a checklist tool based on Joint National Committee (JNC 8) guidelines to assess how well a patient’s hypertension has been managed and, if necessary, to guide adjustments in therapy.

Neurology

Project Title: Inpatient Discharge Education During the Neurology Clerkship
Population: Neurology patients cared for by students at all inpatient clinical sites
Intervention: Students discuss discharge planning with their team (which includes attending physicians, residents, social workers, and case managers) and then perform discharge teaching with the patient and family members, making sure to use interpreter services if English is not the patient’s preferred language.

Radiology

Project Title: Assessing Low Back Pain Imaging Appropriateness
Population: Patients receiving imaging for low back pain at Boston Medical Center
Intervention: Each student retrospectively reviews the charts of the three patients that have recently undergone an imaging study for low back pain. Following this, they submit data regarding their findings—which will be used towards guiding future interventions to promote appropriate use of imaging for low back pain.

Results

7/8 of the Core Clinical Clerkships are now facilitating student quality initiatives with a median 64% monthly participation rate amongst all third-year medical students.

Surveys

- A collaborative team structure has been established amongst the student quality leaders that allows for a coordinated effort towards student improvement of patient care across all involved clerkships
- In addition to their innate quality and patient safety features, several of the improvement projects have promoted interprofessional education, evidence based medicine, and team building skills.
- To date one of the individual clerkship projects has been accepted for presentation as an abstract at a national conference and additional scholarly output in the form of presentations and publications is expected to follow for the other clerkship projects.

Challenges

- Some interventions are site-specific, thus prohibiting a 100% student participation rate since not all students rotate through every clinical site during a clerkship
- Multiple responsibilities of medical students can sometimes limit opportunities to perform quality improvements, especially during busy clinic months
- Difficulty achieving buy-in from surgery clerkship in order to facilitate a student quality initiative based on concerns about resources, lack of a consistent student leader

Conclusions

- Medical students can play an active role in quality improvement processes throughout their clinical clerkships that may contribute towards improved care for patients.
- A collaborative effort amongst all clinical clerkships to facilitate medical student engagement throughout the third-year can provide leadership opportunities for students and faculty with career interests in quality improvement and patient safety.
- Quality improvement initiatives designed for medical student participation can also be used as a means to provide experiential education regarding health disparities, team building skills, and clinical application of evidence-based medicine.

Next Steps

- Expand scope of site-specific interventions by modifying processes in order to accommodate all clinical sites for a clerkship
- Enhance student and faculty enthusiasm by presenting results to date and encouraging participation before clerkship to attain the highest student participation rate
- Promote continued cycles of improvement for each individual clerkship initiative by way of additional student and faculty leader education regarding the IHI’s “Model for Improvement”
- Continue to engage surgery department with hopes of promoting development of a surgery clerkship quality initiative in order to achieve buy-in from 8/8 of the core clinical clerkships

Team Members

- Obstetrics and Gynecology: Justin Slade, MD, Farnaz Farhi, MD, Molly Siegel, MD, Jodi A. Abbott, MD
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- Internal Medicine: Justin Slade, MD, Rajshree Chawla, MD, Warren Hershenson, MD, Pitt Simonson, MD, Karin Sloan, MD
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References

1. "Core Entrustable Professional Activities for Co...011:705-712

* Denotes faculty advisor