INNOVATIONS IN PRACTICE MANAGEMENT ORAL SESSION A

Developing a Program to Rein in Overuse of Diagnostic Testing in the Inpatient Setting Marc Larochelle [1]; Jeffrey Trost[1]. [1]Johns Hopkins Bayview Medical Center, Baltimore, Maryland . (Proposal ID # 11904)

STATEMENT OF PROBLEM OR QUESTION:
Evidence suggests inpatient diagnostic testing is overused and a source of significant waste. Modifying physician ordering behavior has the potential to reduce costs and improve patient care.

DESCRIPTION OF PROGRAM/INTERVENTION:

A multi-departmental, physician-led committee was organized with the aim to better understand and improve physician ordering behavior of diagnostic tests at our institution. Cardiac enzyme ordering was selected as an initial target. Based on a review of clinical evidence and guidelines, and discussions with cardiologists, criteria for appropriate ordering of cardiac enzymes for the diagnosis of acute myocardial infarction (AMI) were identified. A chart review of 35 patients admitted to an internal medicine floor on a single day in 2009 was used to contrast appropriate with actual utilization. The results were presented to internal medicine housestaff, medical students, and faculty. In addition to educational interventions, ongoing work is focused on modifying the computerized provider order entry system (CPOE) and developing a report card of ordering behavior at the institution, department, and individual levels to encourage appropriate utilization and assess progress.

OBJECTIVES OF PROGRAM/INTERVENTION:
1. Develop a program at the Johns Hopkins Bayview Medical Center to establish a culture of responsibility and improve physician ordering of diagnostic tests, employing cardiac enzyme testing as our initial target.
2. Identify appropriate use of cardiac enzyme testing and contrast with actual use at our institution.
3. Develop interventions to align actual with appropriate ordering of cardiac enzymes and understand the potential cost savings of such an intervention.

FINDINGS TO DATE:
For patients presenting with concern for AMI, appropriate utilization of cardiac enzymes was determined to include up to three measurements of cardiac troponin I spaced six to nine hours apart. Creatine kinase (CK) and MB fraction should not be included in initial testing, but may be appropriate in detecting reinfarction. Chart review of 35 patients admitted to the internal medicine service revealed a mean of 2.4 troponin I, 3.2 total CK, and 3.0 CK-MB tests ordered per patient. 80% of patients had at least one troponin I and 23% had 4 or more troponin I tests ordered. No patients were diagnosed with AMI. Extrapolating to 8,500 admissions annually, removing total CK and CK-MB and limiting the number of troponin I tests to three for diagnosis of AMI would result in a reduction of 27,200 total CK, 25,500 CK-MB, and 5,950 troponin I tests. Based on administrative charge data this translates to $1.03 million saved annually.

KEY LESSONS LEARNED:
We demonstrated significant overuse of cardiac enzyme testing at our institution and presented our findings at a housestaff conference. The 15 attendees were surveyed using an anonymous audience response system. All 15 attendees agreed that troponin I alone without total CK or CK-MB is optimal for diagnosing AMI. However, 47% and 50% of respondents felt that expectations of housestaff and attendings, respectively, would make reducing orders difficult. Prior research suggests that multimodal interventions, including further education, changes to CPOE, and report cards will enhance the likelihood of changing physician ordering behavior. Fostering an institutional culture that values and prioritizes stewardship of health care resources will be instrumental to producing meaningful and lasting change.

Where Did the Day Go? Andrew Schutzbank [1]; Christine Sinsky[2]. [1]Beth Israel Deaconess Medical Center, Boston, Massachusetts ; [2]Medical Associates Clinic and Health Plans, Dubuque, Iowa . (Proposal ID # 11118)

STATEMENT OF PROBLEM OR QUESTION: Clinicians in primary care clinics frequently feel harried and disorganized. We present a method to measure, at the most granular level, how these clinicians spend their day.

DESCRIPTION OF PROGRAM/INTERVENTION: During a 1 week elective with Dr. Sinsky asked Dr. Schutzbank to determine how much time was spent undistracted with patients in her day. In-room time logging into the computer, hunting for information or supplies was poorly spent and to be minimized. We describe both the method created to collect this data and report our findings.

Dr. Schutzbank observed Dr. Sinsky, her nurses and reception for 1 morning to develop action categories, then spent 4 days in 30 minute periods collecting data.

Observations were coded at a resolution of 1 per 10 seconds to provide enough detail to guide change. We used an iPad with a metronome app to cue 10 seconds via headphone and an app called Tallymander 2 to tally the observations in a non-obtrusive fashion. For example, every 10 seconds Dr. Sinsky spent doing a physical exam would add 1 to the Exam category. This data was then directly exported into Excel for analysis.

OBJECTIVES OF PROGRAM/INTERVENTION:

- Develop a method to accurately and efficiently capture and code in-room activities in real time, to better understand current workflow patterns, identify time sinks, and redesign of office processes for improved quality of care
- Create a methodology to compare pre- and post- workflow interventions within an individual practice
- Compare how clinicians spend their time across different practices, with an emphasis on undistracted time.

FINDINGS TO DATE: Methods findings: We were able to develop a non-obtrusive method to categorize, record, and analyze clinician activity throughout their day, especially while in the patient room. Unlike previous forays into this area, we were able to inexpensively see â€œunder the hoodâ€ of primary care, with the ability to record observations that accommodates the rapid task shifting common to primary care, while remaining easily customizable for different providers or practices. Data collection and data entry occur simultaneously, minimizing error and allowing for rapid analysis in spreadsheet format, and providing immediate feedback to the observed practices.

Practice findings: At Dr. Sinsky's practice, initial findings suggest that she spends between 49-60% of her time in a clinic session as undistracted patient time, approximately 4% (15 minutes per 6 hour session) logging into her computer, 11% documenting the clinic note and another 4% of the session in downtime.

KEY LESSONS LEARNED: -With the right technology, we can gain direct, in-room insight into the mechanics of a primary care practice. Data recording can be rich, granular, and analyzed quickly.

- This method can be used to answer any question related to how physicians spend their time with a limited investment of time and energy.
- We anticipate this methodology will be useful in analyzing efficiencies associated with individual innovations in office organization, workflow and task distribution.