Project description:

1. Physical Exam Skills: An “invisible” fracture in the patient safety/ QI loop?

2. Physical exam is a cornerstone of medicine and provides unique information, not provided by history or even technology in many instances. It has been shown to speed intervention in crucial situations, and streamline workups, saving resources.

Conversely, it could then be expected that *gaps in physical exam skill* contribute significantly to poor patient outcomes. Studies have shown that little improvement in exam skills occurs in graduate medical education, nor afterward and many would argue there is decay in these skills, without intentionality to improve.

Complicating matters, physical exam errors are often “invisible”. When a finding is missed, the exam is reported as “normal”. One can argue that the finding was absent at the time of exam, but was it? How is this phenomenon being addressed?

Historically, these gaps were addressed at the bedside during rounds or at Grand Rounds, involving actual patients for exam skill demonstration. Today these activities do not usually involve the patient and more commonly involve analyzing data generated by the patient (e.g. labwork, radiology studies, etc.)

Admitting residents are often unaware of any differences in their initial diagnosis and the patient’s final diagnosis, thereby cutting them out of the improvement loop, missing opportunities to learn and improve.

How can we identify poor or absent physical exam skills and address these gaps in postgraduate training? (practicing physicians?) This topic presents fertile ground for Quality and patient safety Improvement.

We aim to provide physical exam feedback and education to residents involved in the care of identified groups of patients, using physical exam documentation in the patient’s chart

3. Physical exam skills and training have substantially decreased in American residencies. Standard Quality Improvement efforts generally do not focus on physical exam, nor is this process linked to improvement of deficits in this area. Examining the role of physical exam in a patient’s hospital course, and implementation of efforts to address deficits,

could result in improvements in patient outcomes and decreased patient morbidity and mortality.

4. Research question: **Can identification of quality issues in patient care be influenced by addressing corresponding physical exam skills of residents?**

5. The student will learn about the hospital **Quality Improvement system** and how continuous quality improvement betters patient outcomes. They will participate in **review of patient cases** to identify quality targets involving physical exam. They will also participate in the **educational efforts** of residents**, learning advanced physical exam applications** derived from real patient cases. They **may analyze assessment videos of residents**. They may participate as a **Standardized Patient** in these exercises and participate in bedside physical diagnosis rounds with the residents.

6. The data gathered before and after these educational efforts will be compared for statistical significance. These metrics may include hospital transfers, resuscitations, scores on assessments of residents, as well as comparisons of attitudes and knowledge of residents.

7. The student will play a crucial role in coordinating efforts to improve patient morbidity and mortality by helping to educate and analyze attitudes, skills, and knowledge of residents relative to physical diagnosis skills.

Student Fellow Training / Mentoring Plan:

1. The student fellow will be involved in all aspects of the study. This will include regular meetings regarding progress, attending assessments of residents performance on assessments of standardized patients, attend bedside physical diagnosis rounds with residents, attend other residency educational opportunities related to the project, attend QI committee meetings,
2. Resources will include all faculty on the project, residents, Dr. Lecat, appropriate training in statistical analysis, training in evaluation of standardized patient encounters with residents.
3. Research will be conducted at NEOMED and St. Elizabeth's hospital, Youngstown