Introduction of Knowledge Assessments into Residency Curriculum

Dorsey, Nicholas M.D. [1,2] ;Mercado, Elvira M.D. [1,2]
1: University of Central Florida College of Medicine; Graduate Medical Education; Orlando, FL
2: HCA Florida Ocala Hospital Family Medicine Residency Program; Ocala, FL

Background

Assessment of knowledge and competency in residency education is a common challenge for residency programs across the nation. Competency based assessments are the current standard model of evaluation in Family Medicine Residency programs. Although this looks different for various programs, the current mainstay of resident assessments in Family Medicine Residency Programs are competency-based evaluations and yearly In Training Exams (ITE). These are useful tools; however, this is only a snippet of resident skills and knowledge. One challenge encountered at our program is the ability to assess if clinical knowledge of goals and objectives are satisfactorily met with only competency based evaluations.

In medical student education, the use of standardized examinations at the end of clinical rotations to assess knowledge and successful completion of core rotations is a common practice. For the most part, residency programs do not have rotation knowledge assessments to assess successful mastery of rotation goals and objectives with translation to clinical practice. Accurate assessments are extremely important in family medicine where residents are expected to become proficient in multiple areas of medicine. The current milestone based assessments do not always accurately assess and identify gaps in knowledge and skills in a timely manner to enact learning improvement plans to achieve our goal of graduating competent family medicine physicians ready for clinical practice.

Objective

Our purpose was to conduct rotation exams of resident knowledge at the conclusion of clinical rotations. This would provide us another piece of data to add to the composite of resident evaluation for competency. In turn, we would be able to more objectively test resident understanding and its application to clinical practice. This would ideally allow for earlier identification of knowledge gaps. We anticipate our multiple choice and short answer assessments will correlate with summative resident data.

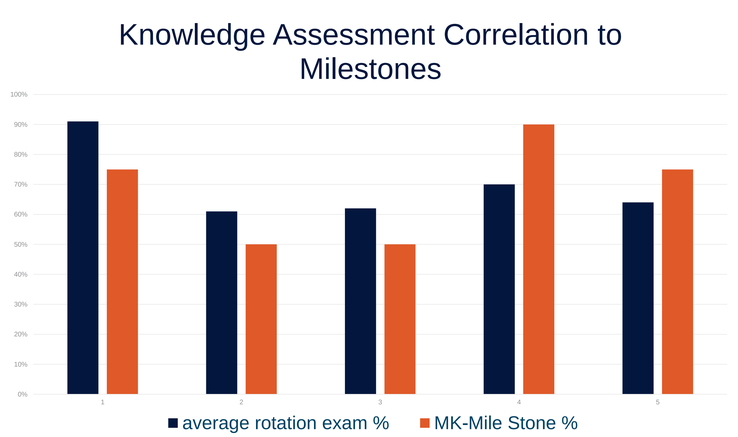
Methods

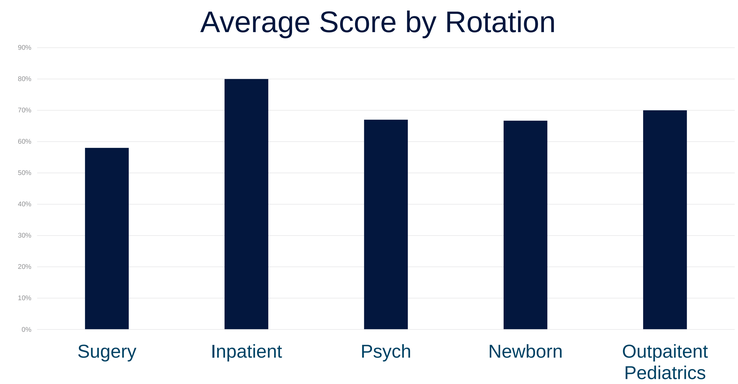
Core faculty created End of Rotation Knowledge Assessment questions for the following PGY1 rotations: General Surgery, Outpatient Pediatrics, Inpatient Medicine, Psychiatry and Newborn Nursery. Each rotation had a bank of multiple choice questions and short answer questions. Tests were 6-17 questions with a majority of multiple choice and 1-2 short answer. These 18 tests were conducted during half day didactic sessions while residents were free of other clinical responsibilities. Tests were graded by faculty to calculate a numerical score which is reflected in the data as percent of correct answers.

Test scores were averaged and compared to the residents recorded Medical Knowledge Milestones assessments.

1 resident was removed from data set due to lack of data.

Results





Discussion

Our findings suggest that there is a correlation between the End of Rotation Knowledge Assessments performed and Medical Knowledge Milestone Reports. While a larger sample size would be needed to determine more accuracy and significance, our group has decided to forego End of Rotation Assessments incorporating multiple choice assessments for several reasons. First, the amount of time needed to create a question bank, implement tests and grade exams was a significant effort with little value added to the resident portfolio. Secondly, residents and attendings both felt multiple choice questions where a poor representation of the residents true knowledge on subject matter whereas the short answer questions clearly revealed these gaps and offered the resident a chance to explain their medical reasoning. Lastly, while we did find correlation between competency and End of Rotation Assessments that were primarily multiple choice questions, the short answer questions highlighted the ability to synthesize medical knowledge and incorporate into clinical practice and real life patient care.

Conclusion

End of Rotation Knowledge Assessments seem to correlate with our current evaluation system of medical knowledge of residents. However, multiple choice questions failed to provide useful feedback to the residents and faculty on areas of opportunities for improvement.

Overall, this project was valuable in identifying the amount of work necessary to generate these knowledge tests and the challenges to successful implementation.

Moving forward, we have decided to continue the use End of Rotation Assessments with short answer/free response questions only. We anticipate this will help faculty and residents better identify gaps in medical knowledge as well as help advance our understanding of their clinical reasoning and application to patient care.

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