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Implementation of a workplace-based assessment to measure performance of the Core Entrustable Professional Activities in the Pediatric Clerkship

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Background

In 2013, the AAMC convened a panel of medical education experts to delineate the 13 Core Entrustable Professional Activities (**Core EPAs**) medical school graduates should be able to perform without direct supervision by day one of their residency. ¹ Assessment of these EPAs requires direct observation to render entrustment decisions. ² As part of our engagement in the AAMC Core EPA pilot, ³ we created a workplace-based assessment (WBA) system to assist in measurement of student performance for the Core EPAs at the Virginia Commonwealth University School of Medicine.

For the Pediatrics clerkship, we identified 6 Core EPAs to assess for all students during the 2018-2019 academic year:

- Core EPA 1 (history and physical exam)
- Core EPA 2 (prioritize a differential diagnosis)
- Core EPA 3 (recommend and interpret common diagnostic and screening tests)
- Core EPA 5 (document clinical encounter in patient record)
- Core EPA 6 (provide an oral presentation of a clinical encounter)
- Core EPA 9 (collaborate as a team member of an interprofessional team).

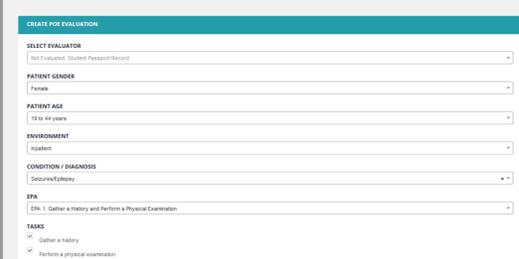
Methods

Development of WBA Instrument for the Core EPAs

A mobile-friendly WBA was developed, incorporating the **Ottawa Clinic Assessment Tool (OCAT)**.⁴ The OCAT uses a scale of 1-5 to measure the degree of intervention required on behalf of the supervising clinician, with 1 indicating the provider "had to do it (him/herself) and 4 indicating the provider "needed to be available just in case". A score of 5 ("I did not need to be there") was omitted because the leadership team at VCU felt that indicating no supervision was needed was inappropriate at an M3 level.

Students were required to self-identify opportunities to request WBAs. All students were required to submit 12 requests over their 6 week Pediatrics clerkship. Preceptors were sent a link requesting feedback as depicted in **Figure 1** below.

Figure 1. Student and preceptor views of mobile-friendly WBA*



Student View



Preceptor View

Methods

Outcomes and Analysis

- We collected data on the **number of WBA completed** and **mean OCAT scores** across EPA.
- One-way ANOVA was performed to compare OCAT scores across the 6 Core EPAs
- A Pearson correlation coefficient was calculated to determine the association between OCAT scores and clerkship timing.

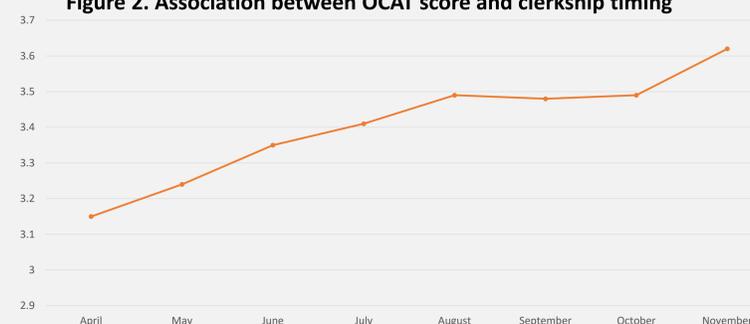
Results

- 1059 WBA were completed on 160 students
- Student received a mean of 6.6 WBAs over the course of the clerkship
- Statistically significant difference observed in mean OCAT scores between EPAs (F=3.68, P=0.003)
- Moderate positive correlation ($R^2=0.18$, $P<0.001$) between timing and OCAT scores

Table 1. Mean OCAT Scores by Core EPA

Core EPA	Number of WBAs	Mean OCAT Score	Standard Deviation
EPA 1	241	3.54	0.591
EPA 2	132	3.32	0.724
EPA 3	101	3.31	0.718
EPA 5	135	3.37	0.632
EPA 6	347	3.40	0.649
EPA 9	103	3.52	0.575
Total	1059	3.42	0.648

Figure 2. Association between OCAT score and clerkship timing



Discussion

- Overall, implementation of a mobile-friendly WBA system for the Core EPAs was feasible in our Pediatrics clerkship. Mean OCAT scores were significantly different between Core EPAs and increased over the course of the year.
- In comparison to one study of internal medicine residents,⁵ mean ratings of our students were lower on the OCAT scale. This suggests the OCAT scale may be useful in discriminating between level of training.
- The difference in mean OCAT scores across Core EPAs, the increase in mean performance over time, and the comparison to residents in a previous study⁵ suggests initial evidence for the validity of incorporating OCAT score to assess student performance in the Core EPAs.
- While these differences were statistically significant, the mean was relatively high from the beginning of the year as well. This may be the result of student self-selecting opportunities for assessment, issues related to faculty development, or grading inflation.
- One major limitation of our findings is that we did not incorporate the full 5-point OCAT scale, thus making true comparisons between our students and residents not possible.

Conclusions

- A mobile-friendly WBA system can be used to assess performance of the Core EPAs in the Pediatrics clerkship
- For the next academic year, we plan to incorporate the full 5-point OCAT scale to make comparisons between learners at different levels of training.
- In addition, we plan to compare of performance across clerkships and provide further faculty development to ensure optimal use of this instrument.

References

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