Validate entrustable professional activity (EPA)-based assessment in pathology residency training for common on-call activities

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Background

Entrustable professional activities (EPAs) evaluate a resident's performance of a specific activity and link to competencies, which can inform assigning graduated responsibilities (e.g. taking call). At the University of Vermont (UVM), the Clinical Competency Committee (CCC) decides whether a resident is competent to take call, but it is currently operating with limited data (personal communication with CCC chair). EPAs were implemented in 2019 as a way to assess residents' skills and abilities in frozen section training, a key On-Call activity, prior to starting taking call.

Methods

The proposed use of the EPAs in this study is to provide data to the CCC to inform decisions about a resident's competency to take call. This validation study follows the Kane Framework (*scoring—generalization—extrapolation—implication*) by providing multiple pieces of evidence for the CCC to review. Residents' performance of intraoperative consultations during their surgical pathology rotation were evaluated by multiple EPA-based formative assessments (*scoring*). Residents were assigned an entrustment level at the end of the rotation (*generalization*). Formative and summative assessments were reviewed by the CCC (*extrapolation, implication*) to determine readiness to take call.

The CCC was surveyed regarding their confidence in assessing resident readiness to take call, prior to the addition of EPAs to the assessment portfolio (December 2019).

EPAs were added to the PGY1s first week of frozen section training (Dec 2019-Feb 2020). Residents were instructed to ask for ~5 formative EPAs throughout the week. One summative assessment was completed on each resident in Spring 2020, based on review of all formative EPAs. Formative and summative EPAs were provided to the CCC for the Spring 2020 semi-annual review.

Residents, faculty, pathologists' assistants (PAs) and CCC members were surveyed in June 2020 about the ease of use and usefulness in EPAs in June 2020.

This research is funded by the Frymoyer Scholars Program at the Larner College of Medicine at UVM

References

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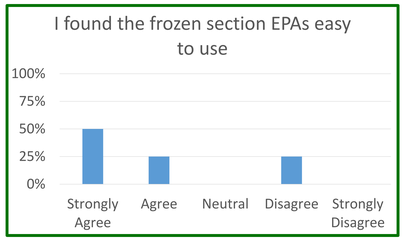
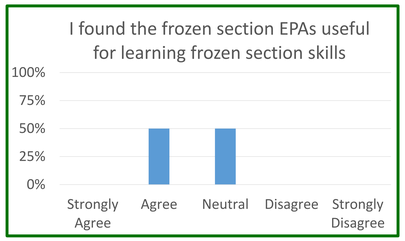
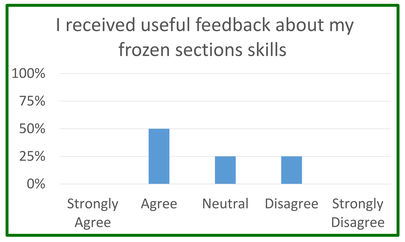
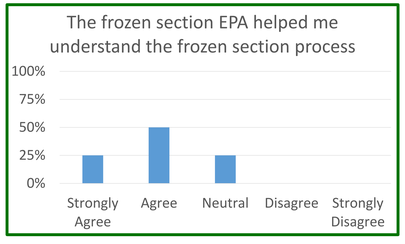
Survey Results

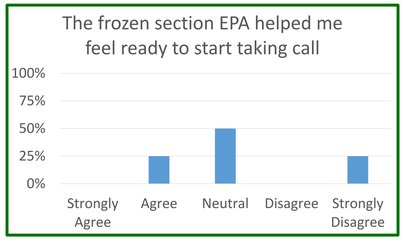
Residents (n=4)



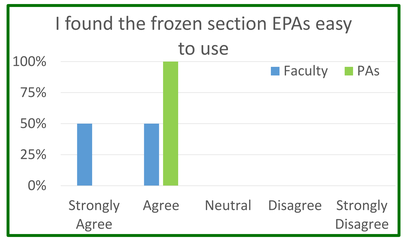


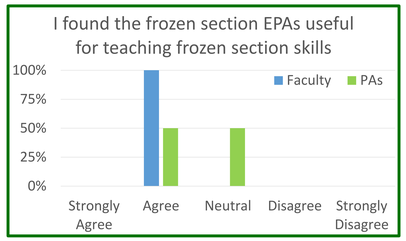


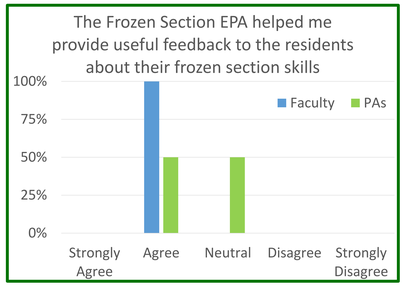


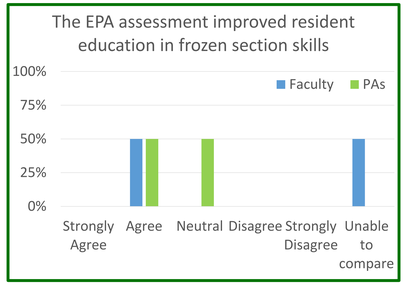


Faculty (n=4) and PAs (n=2)

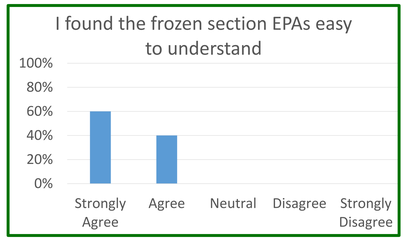


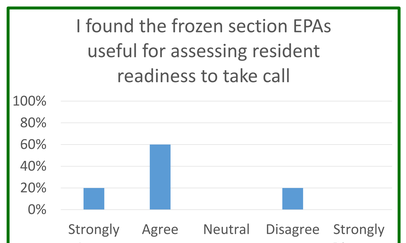


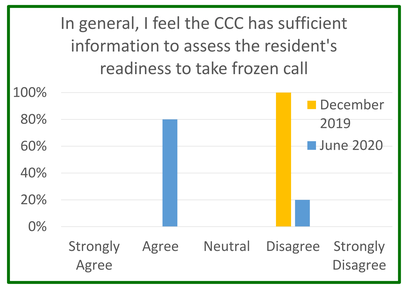


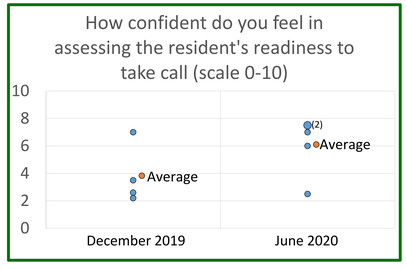


CCC (2019-n=4; 2020-n=5)









EPA Tally	Total # EPAs completed	# competed by PA	# Competed by Faculty
Resident 1	4	2	2
Resident 2	5	2	3
Resident 3	3	3	0
Resident 4	5	0	5

Results

Most survey respondents found EPAs easy to use, useful, and facilitated feedback. Those who were less positive about EPAs pointed out ways to improve the incorporation into training, including dividing into technical and interpretive aspects and having the formative assessment on hand in the frozen room for more consistent and timely completion. Residents had improved understanding of the frozen section process through the use of EPAs, as the knowledge and skills statement clearly lays out expectations of this professional task

When asked if the CCC had sufficient information to assess residents readiness to take call, 100% disagreed with that statement in December 2019, while 80% agreed with that statement in June 2020 (after EPAs were included in the residents' assessment portfolios). The average CCC member's confidence in assessing readiness to take call (on a sliding scale of 1-10), went from 3.8 to 6.1 between December 2019 and June 2020.

CCC members noted in December 2019 "more assessment and faculty input is needed" and "there is very little objective data on performance." Comments in June 2020 noted that "more information was provided than previously", and "EPAs on frozen section were very helpful with respect to frozen section call."

Conclusions

The majority of people responded favorable to the addition of EPAs in training and assessment, with some helpful suggestions on incorporating the formative assessment into workflow.

The Kane framework of validation focuses on building evidence (EPAs) for decision making (ready to start taking call). Residents and CCC members reported different levels of confidence around readiness to take call. With the addition of EPAs in the assessment portfolio, most CCC members agreed they had sufficient information and felt more confidence in assessing a resident's readiness to take call. In contrast, most residents found EPAs useful for learning, but did not feel ready to start taking call after one week of frozen training.

The COVID pandemic had a significant impact on resident training and assessment. All PGY-1 residents completed their foundational one week of frozen training, but continued frozen training (one morning each week during 2-3 subsequent SP rotations) was put on hold in March 2020 and has yet to be restarted. Therefore, no additional EPAs were available for the December 2020 semi-annual review, when the CCC makes a formal decision about residents starting call. The loss of 9 months of training and assessment undoubtedly impacted the *scoring* step in this validation study, which in turn weakens the *extrapolation* and *implication* arguments. Indeed, Kane cites educators tend to find validity in decision after reviewing limited evidence, which may be the case in this study given the sharp increase in confidence by the CCC in assessing resident readiness to take call. Nevertheless, this data shows a promising trend as EPAs were useful in assessing specific skills necessary for resident's clinical responsibility. Expanded and continued use of EPAs across training will likely continue to provide valuable data to residents and the CCC, along with further opportunities for validation.

Please contact Bronwyn Bryant at Bronwyn.Bryant@uvmhealth.org with any questions

The author attests that there is no conflict of interest in the research presented