EVALUATION OF PEDIATRIC RESIDENT COMPETENCY: MILESTONES COMPARED TO LEVEL OF SUPERVISION

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Background: The adoption of the Entrustable Professional Activities (EPA) framework suggests using level of supervision as the primary evaluation scale. It is currently unknown whether level of supervision or milestone ratings are better at differentiating levels of learners. Methods: Retrospective cohort study using resident evaluation data collected from July 1, 2011 to June 30, 2013 using a 6-point scale based on level of supervision required (1=substantial supervision needed; 2=moderate supervision needed; 3=occasional supervision needed; 4=minimal supervision needed; 5=no supervision needed; 6=ready to supervise others) and from July 1, 2013 through June 30, 2015 using 5-point milestone scales. Scores were normalized to a 0 to 1 scale to permit comparisons between level of supervision and milestone scores, using inverse-variance weighted mixed-effects linear regression models for each of 8 similarly worded competencies. Regression parameters were expressed as annual rates of change in normalized scores in order to determine which rating system provides a clearer representation of post-graduate learner progression. The greater the mean evaluation rate of change (e.g. from PGY1 to PGY2), the stronger the ability to differentiate learner levels. Results: Data was abstracted on 68 residents and 140 person-years. Annual rates of change were higher for level of supervision ratings (0.12-0.17, 95% CI 0.12-0.18) compared to milestone ratings (0.10-0.13, 95% CI 0.08-0.14) with a statistically significant difference in slopes ranging from 0.02 to 0.05 indicating that the level of supervision ratings permit clearer differentiation of level among residents by post-graduate year. Conclusions: The greater slopes in resident progression for level of supervision rating than for milestones suggest that the level of supervision scoring provides a more clear measurement of resident progress. Level of supervision scoring similar to what is suggested in the EPAs may allow programs greater ability to differentiate between learner performance and identify struggling learners.

Annual Rates of Change Higher for Level of Supervision Ratings

Competency	Annual Change in Mean Level of Supervision	Annual Change in Mean Milestone	Differences in Slope (95% CI)
PC1: Gather information	0.15 (0.14, 0.16)	0.13 (0.11, 0.14)	0.02 (0.01, 0.04)
PC4: Diagnostic/ therapeutic decisions	0.16 (0.15, 0.18)	0.11 (0.10, 0.13)	0.05 (0.03, 0.07)
MK1: EBM	0.17 (0.15, 0.18)	0.12 (0.10, 0.13)	0.05 (0.03, 0.07)
PBL1: Identify limits	0.14 (0.12, 0.15)	0.11 (0.10, 0.13)	0.02 (0.004, 0.04)
PBL4: Incorporate feedback	0.14 (0.13, 0.15)	0.10 (0.09, 0.12)	0.04 (0.02, 0.06)
PROF1: Humanism	0.12 (0.11, 0.14)	0.10 (0.08, 0.11)	0.03 (0.01, 0.05)
SBP1: Coordinate care	0.15 (0.14, 0.16)	0.10 (0.08, 0.11)	0.05 (0.03, 0.07)
SBP3: Teamwork	0.14 (0.13, 0.15)	0.10 (0.08, 0.11)	0.05 (0.03, 0.06)