Pediatric Resident Self-assessment of ACGME Competencies

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Disclosure Statement

- STL, AEB, AG, SG, FT, and JDM are members of the American Academy of Pediatrics’ PediaLink Resident Center Workgroup.

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Background

- Self-assessment and self-directed learning are essential to lifelong learning, medical professionalism and becoming an effective physician.
- Physician self-assessment and external measures are not well correlated.
- It is unknown which competencies residents consider as their relative strengths and weaknesses.
- It is unknown whether residents choose to develop learning goals in areas of self-assessed weakness.
Objectives

- Examine areas residents identify as areas of strength and weakness and whether those areas differ based on level of training.

- Determine whether residents choose to work on learning goals in areas they identify as weaknesses.
Methods

- Cross-sectional analysis of de-identified AAP PediaLink ILP database for the 2009-2010 academic year (7/1/09-6/30/10)
ACGME Competencies

- Assessed subcompetencies using slider visual analog scale
  - Novice 0-29
  - Advanced Beginner 30-60
  - Competent 61-91
  - Proficient 92-100

- Levels Achieved in Residency:
  - Novice: Little prior experience so judgments and decisions are rule-based; little ability to filter or prioritize information.
  - Advanced Beginner: Some past experience allows one to filter and prioritize information; able to identify common aspects of different situations or encounters enabling recognition of some patterns of problem presentations.
  - Competent: Past experience allows for pattern recognition of common problems and synthesis of information to see the big picture; realizes role in consequences of decision-making which fosters emotional engagement with the patient and an appropriate sense of responsibility.
  - Proficient: Rich experience provides what appears to be an intuitive ability to recognize problems; comfortable with evolving situations and capable of adapting from the known to the unknown; situational responses and management still require methodical reasoning.

- Levels Achieved in Practice:
  - Expert: Vast experience allows for intuitive problem recognition and intuitive situational responses & management in almost all cases; perceptual ability coupled with emotional engagement serves as an alert to patterns that don't fit the routine and require search for new knowledge.
  - Master: The reflective practitioner whose deep level of commitment to the patient stimulates an intense drive for ongoing learning and improvement.
Analysis

- Internal consistency of competency self-assessment
  - Cronbach’s alpha and factor analysis

- Multivariate regression
  - Self-assessment of competencies
  - Level of training
  - Gender
  - MD/DO status

- IRB approval from UC Davis and AAP
Results

- 4167 residents completed an ILP on PediaLink

- Demographics similar to all pediatric residents nationally
  - 70% female
  - 89% MD; 10% DO
  - 35% PGY1s, 31% PGY2s, 33% PGY3+
    - 208 missing year of graduation
    - 68 completed residency prior to 2009
Results

- High internal consistency for all 6 ACGME competency domains
  - Items from each domain loaded on a single factor
  - Cronbach’s alpha: 0.95-0.97
  - Overall Cronbach’s alpha for entire instrument: 0.99
Percent of U.S. pediatric residents who rated themselves as competent (>60) by level of training in each ACGME competency.
Female-male differences in self-assessed overall mean competency rating subside and MD-DO differences emerge as pediatric residents’ level of training increases.

In PGY1s there was no difference based on type of medical degree. Female residents rated themselves slightly lower than male residents (-2.9; 95% CI: -4.9 to -1.0).

In PGY3s there was no differences based on gender. but a slight difference based on type of medical degree. (-5.0; 95% CI: -8.1 to -2.0)
Results

- In some competency domains (MK, PBLI, Prof), residents rated themselves similarly across the domain.
- For other competencies, there was a large difference between subcompetencies in the same domain.
  - **PC:**
    - Gathering essential/accurate information (70)
    - Performing medical procedures (54)
  - **ICS:**
    - Working together as a team (73)
    - Acting as a consultant (57)
  - **SBP:**
    - Advocating for health promotion and disease prevention (60)
    - Practicing cost-effective care (50)
Results

- Residents chose a mean of 8.7 subcompetencies to improve.

- Residents who rated themselves lower in a subcompetency were more likely to want to improve that area (p<0.01).

- Residents who rated themselves as not yet competent in a domain were more likely to want to improve that area.
  - OR: 1.4-2.0; 95% CI: 1.1-2.3
Limitations

- Resident self-assessment of competency and not external measures of competency

- Self-assessments done at different times of year during training

- Unable to distinguish between graduates of LCME and International Medical Schools

- Did not examine actual learning goals residents wrote for themselves
Conclusions

- Residents’ confidence in their competencies increased as level of training increased.

- Although the gap between competencies decreased as level of training increased, residents remained most confident in their Professionalism and least confident in their Medical Knowledge and Systems Based Practice.
Implications for medical education

- Residents continue to rate themselves as least competent in SBP goals.

- Previous work has shown residents are less likely to identify SBP goals as most important and reported relatively less progress on achieving SBP goals.¹

- If achievement of each of the competencies is equally valued by PDs, training programs should provide trainees additional resources/curricula to help them achieve competency in areas in which they are feeling less confident (MK, SBP)

¹Li et al, Is residents’ progress on individualized learning plans related to the type of learning goal set? Acad Med 2011
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Questions?