Supervision and preparedness of medical students from two different curricula

Josefin Bosch (Germany)
Asja Maaz (Germany)
Tanja Hitzblech (Germany)
Harm Peters (Germany)

Background. Clerkships offer important workplace learning activities to acquire and consolidate medical competencies. Based on the frameworks of Entrustable Professional Activities (EPAs) and socio-cognitive theory, we investigate how medical students from an integrated, competency-based and a traditional, discipline-based medical curriculum differ in their clerkship experiences regarding supervision level and preparedness for professional activities. Factors influencing these clerkship experiences are identified.

Research questions. Does an integrated, competency-based curriculum prepare medical students better for their clerkships than a traditional, discipline-based one? Are students from an integrated, competency-based curriculum working more independently?

Methods. In a pooled cross-sectional analysis, medical students from two curricula (N=930; integrated, competency-based and traditional, discipline-based medical curriculum) of the Charité – Universitätsmedizin Berlin, Germany were invited to provide feedback about their clerkship experience via an online questionnaire. Hierarchical regression analyses were applied to investigate factors influencing preparedness and supervision level.

Results. Data of n=342 students was obtained. Statistical analyses reveal a similar pattern of activities in both curricula. Students from the integrated competency-based curriculum (n=158) are more often allowed to work under distant supervision and perceive their university teaching as more helpful compared to students of the traditional, discipline-based curriculum (n=184). Preparedness is influenced by self-efficacy and activity specific factors. Supervision level is influenced by activity specific factors and general perceived supervision quality. The clerkship environment does not predict preparedness or supervision level.

Conclusions. Students from the two curricula execute a comparable range of professional activities during clerkships. An integrated, competency-based curriculum seems to enhance preparedness. This is related to a higher level of independent work, as reflected in more frequent distant supervision.
How we radically changed residency training: 7-Year Outcomes of CBME in the University of Toronto’s Division of Orthopaedic Surgery

Markku Nousiainen

This presentation will outline the lessons learned from 7 years’ experience of running the Competency-Based Curriculum in the Toronto Orthopaedic Surgery training program. The presentation will discuss issues related to: developing the appropriate infrastructure to implement a CBME paradigm; creating a new curriculum and assessment tools that support a CBME paradigm (which include the use of simulation); resident and faculty development; and financial considerations of implementing and supporting a new training paradigm.

Concordance of Clinical Competency Committee and Program Director Recommended Supervision Categorization

Daniel Schumacher

Background: Milestones-based assessment is required for Accreditation Council for Graduate Medical Education accredited programs in the United States. Many specialties are now looking beyond this to further elucidate the relationship between milestones-based assessment and supervision/entrustable professional activities. In these efforts, the relationship between clinical competency committee (CCC) member recommended supervision categorization and that same categorization by program directors is not known. This relationship between those who often perform a more extensive review of residents (CCC members) and those who ultimately make decisions (program directors) is important to understand.

Aim: Determine the concordance between CCC member and program director supervision categorization following semi-annual performance review and milestone assignments in pediatric residency programs.

Methods: Categorical pediatric residents in twelve pediatric residency programs in the United States had CCC member as well as program director supervision categorizations made in conjunction with their semi-annual performance review and milestone assignments at the mid-point of the 2015-2016 academic year. CCC members and program directors were independently asked to categorize residents as follows: 1) may serve as a supervisory resident in all settings, 2) may serve in a supervisory role as a resident in all settings, but is just above the borderline/marginal mark for serving in this role, 3) may serve in a supervisory role as a resident in some settings, but is just above the borderline/marginal mark for serving in this role, or 4) may not serve in a supervisory role as a resident.

Results: 215 residents had supervision categorizations determined by both CCC members and program directors. Concordance between CCC members and program directors across all categorizations was strong (Krippendorff’s alpha = 0.88), as shown in the figure. In the 22 instances that the decisions were not concordant, program directors assigned a lower level (n=17) more often than a higher level (n=5) compared to CCC members. Program directors offered multiple explanations when adjusting categorization down, including training level/experience of the resident, performance being below peers, demonstrating less proficiency in higher acuity settings, not being at milestone levels they believe match ability to supervise, lack of demonstration of supervision ability, and underdeveloped clinical skills. When they adjusted categorizations up, program directors offered these justifications: previously demonstrated ability as a supervisor, training level, and possible data entry error by the CCC member in one instance.
Conclusion: In general, the concordance between CCC member and program director supervision categorization is strong, supporting the validity of these decisions. Where decisions were not concordant, it seems that program directors may be privy to important information about resident performance not available to CCC members that is helpful in making supervision decisions. When feasible, including this information in CCC member reviews could strengthen the depth and quality of data considered for making milestone level as well as supervision categorization assignments.

#G2.4 (19b)

Key Factors Driving Supervision Categorization of Pediatric Residents by Clinical Competency Committee Members

Daniel Schumacher

Background: Milestones-based assessment is required for Accreditation Council for Graduate Medical Education (ACGME) accredited programs in the United States. Clinical competency committee (CCC) members play a central role in determining resident milestones reported to the ACGME. Many specialties are now looking beyond milestones to further understand the relationship between milestones-based assessment and supervision/entrustable professional activities. Given the central role of CCC members in determining milestones, further understanding of how they would parse residents into supervision categories based on their review of performance data and subsequent milestone level assignments is important.

Aim: Determine the key factors that determine supervision categorizations by CCC members following semi-annual performance review and milestone assignments for first- and second-year categorical pediatric residents in a three-year residency.

Methods: Across twelve pediatric residency programs in the United States, CCC members completed resident forms that included milestone assignments and supervision categorizations. These forms were completed at the time of semi-annual performance review and milestone assignments at the mid-point of the 2015-2016 academic year. CCC members were asked to categorize residents as follows: 1) may serve as a supervisory resident in all settings, 2) may serve in a supervisory role as a resident in all settings, but is just above the borderline/marginal mark for serving in this role, 3) may serve in a supervisory role as a resident in some settings, but is just above the borderline/marginal mark for serving in this role, or 4) may not serve in a supervisory role as a resident. They were then asked to provide the key factors driving their categorization. If they did not indicate that a resident may serve as a supervisor in all settings, CCC members were asked additional questions about their decision-making.

Results: Sixty-nine CCC members completed 370 resident forms that included milestone assignments and supervision categorizations. Each CCC member completed forms for an average of 5.4 residents, with a range of 1-19.

The majority of forms categorized residents as being able to supervise in all settings (n=190). CCC members cited the following as the most common key factors used in making this decision: 1) clinical experience (n=45), milestone level (n=43), fund of knowledge (n=34), clinical skills (n=30), leadership skills (n=29), help seeking behaviors (n=27), clinical judgement (n=26),
discernment/knowing limitations (n=23), trustworthiness (n=23), qualitative feedback/data (n=20), and good communication/interpersonal skills (n=20).

For forms categorizing residents as able to serve as a supervisor in all settings but just above the borderline/marginal mark for this role (n=30), CCC members cited the three most common key factors driving this decision: medical knowledge concerns (n=6), milestone level assignments below desired level (n=5), and the program desiring that residents have a pediatric intensive care unit rotation before serving as a supervisor (n=5). The most common evidence that CCC members would need to have categorized these residents one level up (able to supervise in all settings) were: demonstrated improvement in areas of previous concern (n=13), increased clinical experience (n=11), and resolution of previous concerns (n=8). The most common evidence that would have led CCC members to categorize these residents as unable to supervise were professionalism concerns (n=11) and lower milestone level assignments (n=7).

For forms categorizing residents as able to supervise in some settings but just above the borderline/marginal mark for serving in this role (n=68), the most common key factor driving this categorization was level of experience (n=44). CCC members would have moved these residents up to able to supervise in all settings but borderline/marginal for that role most often if the residents had more experience (n=49). The three most common reasons they would have moved them down to unable to supervise are: lower medical knowledge (n=18), less self aware (n=15), and lower milestone level assignments (n=14).

Finally, 67 forms categorized residents as unable to serve in a supervisory capacity. The most common key factors driving these categorizations were: inadequate experience (n=54), residents still developing their own clinical skills (n=22), lack of systems understanding (n=16), and lack of procedural skills (n=15). Additional experience (n=44) was the most likely factor that would have led CCC members to raise the categorizations of these residents to borderline/marginal.

Conclusion: Despite using a competency-based framework of milestones and supervision levels, CCC members often cited level of experience as important in their supervision categorization of residents. Use of milestone levels was more common when placing residents in one of the “able to supervise in all settings” categories. Several important key factors previously noted in supervision and work-based assessment studies were noted in the decision to entrust residents with the ability to supervise in all settings without qualification: help seeking behaviors, discernment/knowing limitations, trustworthiness, and qualitative feedback/data. These findings add further validity evidence to the importance of these categories in resident entrustment decisions.

#G2.5 (14b)

Entrustable Professional Activities for undergraduate medical education: lessons learned in Utrecht

Olle ten Cate
Indra Posthumus

Starting September 2016, Entrustable Professional Activities (EPAs) will serve as a framework for clinical rotations in undergraduate education at University Medical Center Utrecht. To guide the development of competence, supervisors will entrust students with several professional activities at a designated level of supervision based upon observed performance. Every graduate is to be qualified for five core EPAs with indirect supervision, i.e. without the supervisor in the room, but quickly available when needed and with key findings and procedures checked afterwards. While EPAs were originally conceived for postgraduate training, we developed, in an iterative process over two years using existing frameworks such as the 13 AAMC Core EPAs for Entering Residency and the Dutch Blueprint of Objectives for medical training, a final framework of five broad UME core EPAs, that integrate several smaller, nested EPAs. To gain experience two of these were piloted during 3-month period in 2015-16 with 36 junior students. Several lessons were learned during the development of the EPA framework and the first application. These will be the focus of the presentation.