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PRACTICING EMERGENCY PHYSICIANS REPORT PERFORMING WELL ON MOST EMERGENCY MEDICINE MILESTONES

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Abstract—Background: The Accreditation Council for Graduate Medical Education's Next Accreditation System endorsed specialty-specific milestones as the foundation of an outcomes-based resident evaluation process. These milestones represent five competency levels (entry level to expert), and graduating residents will be expected to meet Level 4 on all 23 milestones. Limited validation data on these milestones exist. It is unclear if higher levels represent true competencies of practicing emergency medicine (EM) attendings. **Objective:** Our aim was to examine how practicing EM attendings in academic and community settings self-evaluate on the new EM milestones. **Methods:** An electronic self-evaluation survey outlining 9 of the 23 EM milestones was sent to a sample of practicing EM attendings in academic and community settings. Attendings were asked to identify which level was appropriate for them. **Results:** Seventy-nine attendings were surveyed, with an 89% response rate. Sixty-one percent were academic. Twenty-three percent (95% confidence interval [CI] 20%–27%) of all responses were Levels 1, 2, or 3; 38% (95% CI 34%–42%) were Level 4; and 39% (95% CI 35%–43%) were Level 5. Seventy-seven percent of attendings found themselves to be Level 4 or 5 in eight of nine milestones. Only 47% found themselves to be Level 4 or 5 in ultrasound skills ($p = 0.0001$). **Conclusions:** Although a majority of EM attendings reported meeting Level 4 milestones, many felt they did not

meet Level 4 criteria. Attendings report less perceived competence in ultrasound skills than other milestones. It is unclear if self-assessments reflect the true competency of practicing attendings. The study design can be useful to define the accuracy, precision, and validity of milestones for any medical field. © 2014 Elsevier Inc.

Keywords—graduate medical education; emergency medicine milestones; ACGME; Next Accreditation System; resident evaluation

INTRODUCTION

As part of its Next Accreditation System, the Accreditation Council for Graduate Medical Education (ACGME) has recently endorsed and implemented specialty-specific milestones as the foundation of a new outcomes-based resident evaluation process (1). The ACGME has explicitly stated the following intentions behind its actions: basing residency program accreditation on educational outcomes, demonstrating to the public the effectiveness of competence-based education, and changing a system that does not encourage innovation and has become prescriptive (1). Empowered by this directive, the emergency medicine (EM) community completed development of the EM milestones in 2012 after an intensive process (2,3).

This study was exempt from our hospital's Institutional Review Board.

The EM milestones will assess resident performance within the following six core competency domains as defined by the ACGME Outcomes Project: Patient Care, Medical Knowledge, Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, and Systems-Based Process (4). Each milestone consists of five levels of resident competence ranging from entry level (medical school graduate/incoming resident) to expert (5). Level 4 is the expected level of competency of an individual at the time of graduation from residency, i.e., the American Board of Emergency Medicine (ABEM) certification standard. In addition, program directors will be expected to file biannual reports on individual resident progress (4).

The EM milestones are a substantial achievement, however, the milestones are based on expert consensus and the completed milestones as written have not been studied extensively or validated. For example, although Level 4 is meant to represent the needed competency for a graduating resident to successfully practice EM, it is unclear without the benefit of prospective validation data if the Level 4 milestones as they are currently written truly represent the current skill set of independent practitioners of EM.

Our objective was to examine how practicing EM physicians in academic and community settings evaluate their own performance on the new EM milestones. We hypothesized that if Level 4 milestones truly represent a graduating resident's competency, then nearly all attendings would self-evaluate at Level 4 or 5.

METHODS

We performed a prospective evaluation of practicing EM physicians in both community and academic settings. The study was conducted from November 1, 2012 through November 24, 2012. A self-evaluation survey was compiled outlining the EM milestones and was sent electronically to a convenience sample of attending physicians at four different institutions, including one academic site and three community sites. The academic institution was a Level I trauma center with an ACGME-accredited EM residency and an annual volume of 57,000 emergency department visits. The three community sites had volumes of 63,000, 62,000, and 25,000 visits per year.

A subset of 9 of the 23 milestones was selected and included in the survey. One milestone was selected from each of the six core competencies and three additional milestones were selected due to their interesting characteristics, such as Ultrasound.

Demographic information was obtained, including academic vs. community, years of practice, and board certification.

Participants were asked to rate themselves on each of the nine milestones using the 1–5 scale outlined by the EM Milestone Task Force (see Figure 1). Data were collected using SurveyMonkey (SurveyMonkey.com, LLC 2010) and responses were deidentified to ensure that the study investigators were blinded to individual responses. Data were analyzed using Microsoft Excel (2003, Microsoft, Redmond, WA) to calculate proportions and confidence intervals (CIs). Participants were informed by e-mail that participation in this survey was voluntary and that by submitting their responses, they were consenting to use of their deidentified data for research and publication purposes. The project was submitted to the local Institutional Review Board. It was determined that the study met criteria for exemption under federal guidelines.

RESULTS

Seventy-nine attendings were surveyed, with an 89% response rate. Sixty-one percent were academic. Thirty-four percent were practicing for 0–5 years. Ninety-three percent graduated EM residency (see Table 1). The study's power precluded any significant associations between milestone level and years of practice, academic vs. community setting, or EM boarded vs. not.

Overall, 77% (95% CI 74%–80%) of all responses by EM physicians were at the Level 4 or 5. Twenty-three percent (95% CI 20%–27%) of all responses were Level 1, 2, or 3, 38% (95% CI 34%–42%) were Level 4, and 39% (95% CI 35%–43%) were Level 5 (see Table 2). Additionally, 77% of attendings found themselves to be Level 4 or 5 in 8 of 9 milestones, and only 47% found themselves to be Level 4 or 5 in Ultrasound (Patient Care [PC] 10) ($p = 0.0001$) (see Table 2).

DISCUSSION

By surveying practicing EM physicians, we have learned that a large proportion of attending-level physicians do see themselves as at least Level 4 competency, i.e., the Milestone Task Force's definition of the expected competency of graduating residents. However, some EM physicians report they do not meet this expected level of competence on at least one milestone. There are several possible explanations for our findings. This might represent a problem with accuracy and precision in which EM attendings might not be able to correctly self-assess their own competency or they might not understand how to use the milestones. Alternatively, there may be issues with external validity of the current incarnation of the milestones.

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