Original Article

Emergency medicine residencies structure of trainees' administrative experience: A cross-sectional survey

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BACKGROUND: While the Accreditation Council for Graduate Medical Education (ACGME) mandates that emergency medicine residencies provide an educational curriculum that includes administrative seminars and morbidity and mortality conference, there is significant variation as to how administrative topics are implemented into training programs. We seek to determine the prevalence of dedicated administrative rotations and details about the components of the curriculum.

METHODS: In this descriptive study, a 12-question survey was distributed via the CORD listserv; each member program was asked questions concerning the presence of an administrative rotation and details about its components. These responses were then analyzed with simple descriptive statistics.

RESULTS: A total of 114 of the 168 programs responded, leading to a 68% response rate. Of responders, 73% have a dedicated administrative rotation (95% CI 64.0 to 80.4). The content areas covered by the majority of programs with a dedicated program include performance improvement ($n=68$), patient safety ($n=64$), ED operations ($n=58$), patient satisfaction ($n=54$), billing and coding ($n=47$), and inter-professional collaboration ($n=43$). Experiential learning activities include review of patient safety reports ($n=66$) and addressing patient complaints ($n=45$). Most of the teaching on the rotation is either in-person ($n=65$) and/or self-directed reading assignments ($n=48$). The most commonly attended meetings during the rotation include performance improvement ($n=60$), ED operations ($n=59$), and ED faculty ($n=44$).

CONCLUSION: This paper provides an overview of the most commonly covered resident administrative experiences that can be a guide as we work to develop an ideal administrative curriculum for EM residents.

KEY WORDS: Graduate Medical Education; Administration

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INTRODUCTION

Patient safety and the quality of healthcare delivery have become central elements within the practice of medicine. The 2001 Institute of Medicine report mandates that physicians provide safe, effective, patient-centered, timely, efficient and equitable care to their patients.^[1] Subsequently, the Accreditation Council for Graduate Medical Education (ACGME)

announced the Clinical Learning Environment Review (CLER) initiative, with the aim to promote safety and quality of care. The success of these endeavors depends upon adequate education of resident physicians on these administrative topics and incorporation into their medical practice. Although the ACGME Residency Review Committee for Emergency Medicine (RRC-EM) requires that residencies provide an educational

curriculum that includes administrative seminars and morbidity and mortality conference,^[2] little further guidance is provided. As a result, we suspect significant variation in curricular structure and resident experience exists.

To our knowledge, there are no previous studies that describe the components of actual emergency medicine administrative rotations. In this study, we seek to determine the prevalence of dedicated administrative rotations and to detail the components of these curricula.

METHODS

Study design

This was a descriptive cross-sectional survey study of allopathic emergency medicine residency program directors. This study was reviewed by the institutional IRB and received IRB exemption.

Subjects

Subjects for this study were emergency medicine program directors of ACGME-approved residency programs. There were no exclusion criteria. Program director subjects were permitted to delegate participation on behalf of their program to other members of their leadership team. Only one response per site was included.

Study protocol

Initial contact was made via a listserv of EM program directors, and repeat contact for non-responders was sent via scripted, individually targeted emails collected from publically available sources. Enrollment and informed consent were obtained via the first page of the online survey instrument. Data was collected via SurveyMonkey™ during a 6-week period between February 1 and March 15, 2016.

Outcomes

The primary outcome for this study was the percent of residency programs offering a dedicated administrative rotation. Secondary outcomes included characteristics and content of these rotations, including specific educational content, experience design, duration,

and tangible outcomes to be attained by the resident from the rotation experience.

Instrument

The 12-question survey instrument used was a novel creation for this study. No prior survey instrument on this topic exists in the literature. An iterative process was used to determine content of the instrument until the authors felt it had face validity. The survey instrument then underwent extensive internal testing by education experts representing 11 different emergency medicine residencies to enhance both content and response process validity.

Data analysis

Data was analyzed using descriptive statistics. Proportions are described with 95% confidence intervals.

RESULTS

Out of a total of 168 residency programs queried, 111 responded with complete data (66.1%, 95% CI 58.6 to 72.8). Eighty-one of the respondents reported having an administrative rotation (73.0%, 95% CI 64.1 to 80.4). Of those with an administrative rotation, 56.8% (95% CI 45.9 to 67.0) offered a 4-week experience, 9.9% (95% CI 5.1 to 18.3) 3 weeks, 23.5% (95% CI 15.6 to 33.8) 2 weeks, and 4.9% (95% CI 1.9 to 12.0) longitudinal throughout the residency. The rotation was offered in the PGY-3 or PGY-4 year in the majority of respondents (79.0%, 95% CI 68.9 to 86.5). Over half of the residencies with an administrative rotation required residents to complete an administrative project, compared to about a third of residencies without a rotation, but this difference fell just short of statistical significance (17.7%, 95% CI -3.2 to 35.7). Table 1 describes other variables measured in the study, none of which were significantly different. Administrative fellowship refers to additional 1–2 year post residency training offered at the institution.

DISCUSSION

While the ACGME mandates that emergency medicine residencies provide an educational curriculum

Table 1. Other variables measured in the study

Variables	Respondents with administrative rotation (n=81)	Respondents without administrative rotation (n=30)
Required administrative project	54.3% (95% CI 43.5 to 64.7)	36.7% (95% CI 21.9 to 54.5)
Administrative fellowship	32.1% (95% CI 22.9 to 42.9)	26.7% (95% CI 14.2 to 44.5)
Resident access to personal metrics	63.0% (95% CI 52.1 to 72.7)	73.3% (95% CI 55.6 to 85.8)

on administrative topics, there are few formal recommendations concerning which topics should be covered and how best to incorporate them. Our survey is the first to demonstrate the variability of this aspect of resident education, as well as the current state of education in this realm.

Only 73% of the responding emergency medicine programs have established a formal administrative curriculum, despite administrative education being an essential aspect of resident training and an area in which physicians will be required to demonstrate proficiency upon graduation. Pingleton et al^[3] similarly explored how internal medicine and surgery residencies taught their residents about quality and patient safety and determined that there was rarely a formal curriculum, relying instead upon informal education through hospital initiatives and interactions with attendings and administration. In a 2000 publication examining a curriculum for error prevention, Croskerry, Wears, & Binder advocated that readings and didactic lectures alone are unlikely to be adequate to teach these concepts and proposed instead an analysis of meaningful cases combined with high-fidelity simulation.^[4]

Despite difficulty introducing these topics into formal resident education, they are exceedingly important and impact numerous aspects of professional practice. The Committee on Quality of Health Care in America recommended that professional societies develop curriculums on patient safety and ensure that patient safety teaching is incorporated into training. In addition to patient safety and health care quality, appropriate performance as related to these issues can even directly affect physician compensation. The Centers for Medicare and Medicaid Services (CMS) are invested

in the delivery of healthcare quality, and combined with the initiation of the Physician Quality Reporting Initiative and value-based purchasing, all have economic implications for practicing physicians. In addition, as the electronic medical record allows for the tracking of provider efficiency and patient satisfaction, these factors may directly link to physician reimbursement.

Based on our survey responses, the most commonly covered content areas of formal administrative rotations include performance improvement, patient safety, ED operations, patient satisfaction, billing and coding, and inter-professional collaboration with the majority of teaching occurring either in-person or through self-directed reading (Figure 1 and Figure 2). For programs looking to incorporate a formal administrative curriculum into their resident education, there are three primary resources available. In 2003, Cosby and Croskerry responded to the request for professional societies to develop patient safety curriculum and offered an approach to teaching patient safety in emergency medicine.^[5] Welch, Slovis, Jensen, Chan, & Davidson, 2006 proposed a quality improvement curriculum for emergency medicine residents that is multi-faceted and encompasses many broad topics including performance metrics, operations management, information technology, and patient safety.^[6] Finally, in 2010, Kelly et al^[7] published an emergency medicine quality improvement and patient safety curriculum with the goal of providing education to ensure the delivery of high quality (safe, effective, efficient, equitable, timely, and patient-centered) emergency care. While these studies helped to establish directions for future curriculums, there are currently limited additional resources available to aid programs in the development of an administrative curriculum.

Figure 1. Content area.

Figure 2. Experiential learning.

Limitations

There are important limitations for this study. The first was the lack of any existing survey instrument to measure this information. Therefore, one was derived for this study. The authors made every attempt to ensure this novel survey instrument was valid and usable. Still, as a new instrument, it lacks extensive implementation experience.

On a related note, the definition of content for an “administrative rotation” was difficult to identify. There was no existing accepted – or even recommended – content in the emergency medicine education literature beyond the specific non-clinical content recommended by the American Board of Emergency Medicine Model of Clinical Practice.^[8] Therefore, using the aforementioned heterogeneity of the authors’ teaching site experiences, potential components of an administrative rotation were agreed-upon for inclusion. There may be relevant content that was missed by this approach.

Finally, the response rate for this study was 68%. While this is within commonly acceptable ranges for survey studies, it is possible that the nonresponders represent a skewed population that are not captured in the results. For instance, nonresponders may be more likely to have no administrative rotation at their residency.

CONCLUSION

The substantial variability determined from the survey makes it difficult to propose best practices recommendations for curricular innovation at this time, though it remains essential to incorporate these concepts into resident training. This paper provides a guideline for the most commonly covered didactics as well as experiential learning activities and modes of instruction.

Based on this we are concerned that our current EM trainees are not being adequately exposed to a crucial part of EM practice. Future work should build on our study and further explore the essential competencies in administration for emergency physicians. This will provide a justification for additional resources to create the curriculum and framework for residency programs to ensure their residents meet these key outcomes.

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