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# The View From the Top: Academic Emergency Department Chairs' Perspectives on Education Scholarship

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## ABSTRACT

Education scholarship continues to grow within emergency medicine (EM) and in academic medicine in general. Despite a growing interest, would-be education scholars often struggle to find adequate mentorship, research training, funding, and protected time to produce rigorous scholarship. The ways in which individual academic EM departments can support this mission remains an area in need of description.

**Objectives:** We sought to describe academic EM department chairs' perceptions of education scholarship and facilitators and barriers to producing high-quality education scholarship.

**Methods:** We conducted a qualitative study using a grounded theory–derived approach. Participants were solicited directly, and semistructured interviews were conducted via telephone. Interviews were transcribed verbatim and were analyzed by three study investigators using a coding matrix. Discrepancies in coding were resolved via in depth discussion.

**Results:** We interviewed seven EM chairs from academic departments throughout North America (six in geographically diverse regions of the United States and one in western Canada). Chairs described education scholarship as lacking clearly defined and measurable outcomes, as well as methodologic rigor. They identified that education faculty within their departments need training and incentives to pursue scholarly work in a system that primarily expects teaching from educators. Chairs acknowledged a lack of access to education research expertise and mentorship within their own departments, but identified potential resources within their local medical schools and universities. They also voiced willingness to support career development opportunities and scholarly work among faculty seeking to perform education research.

**Conclusions:** Academic EM chairs endorse a need for methodologic training, mentorship, and access to expertise specific to education scholarship. While such resources are often rare within academic EM departments, they may exist within local universities and schools of medicine. Academic EM chairs described themselves as willing and able to support faculty who wish to pursue this type of work.

Education scholarship has seen steady growth throughout academic medicine over the past decade,<sup>1</sup> and the field of emergency medicine (EM) is no exception.<sup>2</sup> The 2012 *Academic Emergency Medicine* consensus conference “Education Research In Emergency Medicine: Opportunities, Challenges, and

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Strategies for Success” provided an essential roadmap for this movement, including recommendations for developing postgraduate training for aspiring EM education researchers, establishing a framework for education research networks to foster collaboration among institutions, and advocating for the creation and expansion of mechanisms for grant funded education.<sup>3</sup> These recommendations were intended to support the growth and quality of education scholarship, which has historically suffered from a lack of methodologic rigor, funding, and focus on meaningful outcomes.<sup>4–10</sup> These recommendations apply not only to traditional research paradigm, as education scholarship encompasses both research and educational and curricular innovations.<sup>11</sup>

Despite these recommendations, education scholars in EM continue to face several challenges. A recent workforce study of academic departments in EM suggested that nearly half of faculty serve in education-related roles in most departments, yet administrative support, access to methodologic expertise, and funding for education scholarship remain scarce.<sup>12</sup> Not surprisingly, prospective education scholars cite the lack of access to funding, research expertise and mentorship, and protected time as major barriers to research productivity.<sup>13,14</sup> These issues are not unique to the practice of EM or to education scholarship. Studies across a broad spectrum of specialties have demonstrated that dedicated mentorship, structured research training, and institutional support contribute substantially to research productivity.<sup>15–18</sup> Given these findings, the ways in which academic EM departments might better support the mission of fostering high-quality education scholarship among faculty is a key area of interest of the Council of Residency Directors in Emergency Medicine (CORD), a national organization that is composed of education leaders, researchers, teachers, and others interested in advancing medical education. CORD convened a special task force to explore education scholarship in EM. Members of this education scholarship task force in partnership with the CORD Academy for Scholarship in Education in EM recommended a systematic evaluation of factors that might enhance or impede the success of education scholars in EM.<sup>12</sup> This recommendation was intended to inform future interventions aimed at strengthening the quality of scholarship within our specialty. Academic EM department chairs have a perspective that spans the educational, administrative, and research components of a successful academic operation, and they are in a unique position

to allocate resources and facilitate faculty development for potential EM education scholars as they do for researchers in more traditional pathways (basic science, translational, clinical). Since education researchers cite structural impediments to their ability to perform scholarship at a high level,<sup>13,14</sup> we sought to understand the views of the academic department chairs on the field of education scholarship, a perspective that has not been previously described. Chairs’ input and support are crucial to education scholars, and EM organizations and faculty alike will be able to engage in a dialogue with chairs to work as partners in developing an atmosphere conducive to promoting scholarship in medical education that can lead to improved outcomes in all areas of the departmental enterprise. The objective of this study is to explore chairs’ opinions on what constitutes education scholarship, what facilitators and barriers exist to conducting high quality education scholarship within EM and what recommendations chairs provide for supporting the growth of this academic mission.

## METHODS

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### Study Design

We devised a qualitative study to address these questions. We utilized an approach derived from grounded theory, in which meaning is derived from data through iterative interpretation and comparison, as the framework to guide our investigation.<sup>19</sup> We developed a semistructured interview guide with introductory discrete questions regarding program size, faculty composition, etc., and then applied the following framework that was developed by the study investigators (SC, JJ, WEC, LY, DR, EF): 1) chairs’ descriptions of their departments’ education faculty, educational goals, and adequacy of resources; 2) views of education research in comparison to clinical research and expectations of scholarly productivity among faculty; 3) departmental sources of support for education and scholarship; 4) access to expertise in education scholarship; and 5) barriers to and proposed solutions for improving education scholarship. In keeping with the sociologic qualitative tradition, these were guided conversations intended to provide direction and elicit supporting information from the participants’ points of view. We performed real-time member checking with subjects during their interviews to ensure the clarity of their responses. The instrument was developed by consensus of the authors and read aloud for response process, clarity, and comprehension to comparable

volunteers who were not study subjects. Minor grammatical errors and question length were altered for ease of administration and comprehension (see Data Supplement S1 [available as supporting information in the online version of this paper, which is available at <http://onlinelibrary.wiley.com/doi/10.1002/aet2.10070/full>] for interview guide). The study was approved by each investigator's institutional review board.

### Study Setting and Population

Following a purposive sampling strategy to render our findings as representative as possible, we recruited academic EM department chairs from geographically diverse locations throughout North America whose programs had varying numbers of residents and faculty and ceased the interview process when thematic saturation was achieved. Participants were recruited directly via e-mail and, after obtaining informed consent, telephone interviews were conducted by one investigator (SOC), recorded with the participants' permission, and transcribed verbatim by an independent transcriptionist. Data were deidentified after verification of clarity.

### Data Analysis

The data were analyzed by three investigators who are experienced in qualitative methodology using an interpretivist/constructivist paradigm. SOC and JJ independently reviewed the transcripts line by line and then met to devise a coding matrix (Data Supplement S2, available as supporting information in the online version of this paper, which is available at <http://onlinelibrary.wiley.com/doi/10.1002/aet2.10070/full>). This coding strategy was established using a constant comparative method in which categories were derived and revised through close examination and reexamination of text.<sup>20,21</sup> When divergent codes arose, a third investigator (WCC) reviewed the text and consensus was

achieved through in-depth discussion between the three parties.

## RESULTS

Seven EM department chairs participated in the study. These chairs serve in academic departments throughout North America. We describe the characteristics of these academic departments and their chairs in Tables 1 and 2. Agreement between the initial reviewers was high (91%) across the seven interviews.

### Chairs' Descriptions of Their Departments' Education Faculty, Educational Goals, and Adequacy of Resources

Six of the seven chairs identified their core education faculty in terms of named roles (e.g., program director) and as faculty whose primary focus is on teaching. With regard to their departments' top educational priorities, excellence in resident and medical student education (6/7), clinical care (4/7), and career development for trainees (4/7) were the most common responses. All participants described their departments as having adequate education faculty to meet their educational priorities.

### Chairs' Views of Education Research in Comparison to Clinical Research and Expectations of Scholarly Productivity Among Faculty

The views of the participating EM chairs with regard to the nature of education scholarship as well as barriers and facilitators are summarized in Table 3, along with representative quotes. Education scholarship was viewed as needing better definition and stronger emphasis on methodologic rigor and as having outcomes that are more difficult to measure than in basic science, clinical, or translational research. Expectations

**Table 1**  
Description of Academic EM Departments Included in Chairs' Interviews

	Region	Residency Format	Number of Residents	Core Education Faculty
Department 1	Western Canada	PGY 1–5	50	5/19
Department 2	Western United States	PGY 1–3	42	10/35
Department 3	Northeastern United States	PGY 1–3	26	8/8
Department 4	Southwestern United States	PGY 1–3	60	11/40
Department 5	Southeastern United States	PGY 1–3	38	9/18
Department 6	South Atlantic United States	PGY 1–3	61	50/105
Department 7	Mid Atlantic United States	PGY 1–3	30	13/21

**Table 2**  
Description of Academic EM Department Chairs Interviewed

	Demographics	Advanced Degrees	Fellowship Training (Y/N)
Department 1	Male, 51–65	MD	Yes
Department 2	Male, 51–65	MD, MPH	Yes
Department 3	Female, 51–65	MD, MBA	No
Department 4	Female, 35–50	MD, MS	No
Department 5	Male, > 65	MD	No
Department 6	Female, 51–65	MD	No
Department 7	Male, 51–65	MD, MPH	No

of scholarly productivity were generally lower for educators than for clinical researchers.

### **Adequacy of Departmental Sources of Support for Education and Scholarship**

Chairs reported providing necessary funding and protected time to serve the educational missions of their departments, as well as faculty development opportunities for those seeking training as teachers. Funding was loosely defined in terms of seed grants, protected time for education-related work, and funding for individual scholarly projects. Chairs also voiced support for funding faculty development in the form of programs such as the American College of Emergency Physicians (ACEP) teaching fellowship.

### **Chairs' Descriptions of Departmental Access to Expertise in Education Scholarship**

All of the EM chairs reported having access to general research support (e.g., biostatistical expertise) for investigators. Intradepartmental expertise in education research was uncommon, but all of the participants identified access to some form of support for educational scholarship within their institution (e.g., school of medicine). Four of the seven participants reported that they provide funding for education scholarship on par with what is available for clinical research.

### **Chairs Descriptions of Barriers to and Proposed Solutions for Improving Education Scholarship**

The EM chairs cited lack of research training and access to expertise in education research as the greatest barriers to the would-be education scholar. Chairs recommended encouraging communities of scholarship within and among institutions and that budding scholars seek sustained relationships with research mentors

to help them along their path. They voiced a desire for more structured research training programs and would consider offering protected time commensurate to that work, yet suggested that such programs and their funding would likely exist outside of the departmental structure.

## **DISCUSSION**

The insights garnered from this collection of interviews will likely seem familiar to those who have pursued education scholarship. Interestingly, chairs felt that they supported education scholarship by providing protected time and funding yet these are two major barriers that educators have identified in performing scholarship.<sup>13</sup> This may indicate a misalignment of expectations, miscommunication regarding available resources, or a disconnect between the ideal and what is realistically feasible. Recognition that both protected time and funding are important to ensuring high-quality scholarship is essential and shared by both educators and the chairs we interviewed.<sup>5,13</sup>

We believe that academic medicine, both in and outside of EM, is an environment in which education scholarship is an increasingly recognized yet challenging path and one that requires a stronger infrastructure of training and collaboration if it is to flourish in our specialty. In this study, academic chairs identified limitations in departmental expertise in education research methodology and recommended rigorous research training to individuals who wished to excel in this field and as a means of improving the quality of the field of education research overall. This corresponds to the perceptions of education scholars as well, and our prior research in this area suggests that education scholars seek departmental support similar to that available to clinical investigators.<sup>12,13</sup> However, education faculty who wish to perform research often come from a clinician-educator path and may have little prior research training and experience. The particular skill set of the education researcher, which may include training in experimental and qualitative methods, correlational study designs, and survey methods, are often beyond the immediate reach of novice investigators. This, along with a system geared toward incentivizing teaching over scholarship among educators, may stifle this branch of the academic enterprise. It is important for prospective education researchers to search for mentorship and expertise outside of their departments and to invest in methodologic training.

**Table 3**  
Chairs Statements on Resources, Priorities, Facilitators, and Barriers to Education Scholarship

Themes	Representative Quotes
<p><i>Limitations of education scholarship in relation to clinical research:</i></p> <p>Lacking adequate definition Overemphasis on descriptive work Underemphasis on rigorous methodology</p> <p><i>Perceived value of education scholarship in relation to clinical research:</i></p> <p>Education research has intrinsic worth, but may not be directly comparable to clinical research</p>	<p>"I think education scholarship is something that has been poorly defined as far as the expectation of it."</p> <p>"I think that what we haven't matured enough is education scholarship outside the realm of dissemination or curriculum development, and to true education research. I think there is a need for the education research component."</p> <p>"I think my perspective is education scholarship is trying to find its place in academia, in big university settings. With the advent of kind of online education, finding a way to give a faculty member credit for really well thought out work, I think is a challenge."</p> <p>"I think it is as important as traditional research scholarship in my mind, but the products are not comparable. They are different."</p> <p>"I think we are sorely wanting, and I think there is just as important a need for education scholarship as there is for clinical care research."</p>
<p><i>Existing departmental support for education mission:</i></p> <p>Funding Protected time Mentorship Recognition Faculty development</p> <p><i>Departmental support for education scholarship in relation to clinical research</i></p> <p>Funding available/equivalent to clinical research</p>	<p>"I make sure that our faculty have the protected time they need. I also compensate them, you know, an incentive program for doing above and beyond kind of the baseline requirement for education in the department."</p> <p>"So currently we have no mechanism to distribute funding, except for through grants for the residents, and partnerships with residents and faculty that I'll give out, and then everyone has seed funds that they can use."</p> <p>"We provide monthly evaluations by the students, bi-yearly evaluations by the residents. We urge them to consider, if they really want to pursue their educational expertise, to look at the ACEP Teaching Fellowship. For those people that are truly focused on education, we pay for a Masters in Medical Education."</p>
<p><i>Availability of expertise in education scholarship:</i></p> <p>General research resources (e.g. biostatistics) Extradepartmental (e.g. institutional) education research expertise</p>	<p>"We have the School of Education that's within the university, but it is not used to the same extent as biostats support is."</p> <p>"There's no limitation to the researchers. There is no limitation to our educators. There are like seven people three floors away that do research, that are delighted to help in research design. It is not a great limiting step. Doing the study and coming up with the study is, but not getting the statistical support."</p>
<p><i>Barriers to high-quality education scholarship:</i></p> <p>Barriers intrinsic to would-be scholars Time Motivation Lack of research training Barriers extrinsic to would-be scholars IRB/ethical issues Limited publication outlets Limited funding Limited access to expertise</p>	<p>"I do think there is a difference between what has been promoted as education research and what, in my mind, truly is education research, and that methodology takes a substantial amount of education that I don't think the average educator who serves in residency leadership has."</p> <p>"I think that the biggest barrier is the lack of fundamental knowledge from faculty in general."</p> <p>"Unfortunately, performing education scholarship is difficult to impossible. Between the research methodologies, the softness of the scientific method, and trying to get things through the IRB to "experiment" on students on residents, it's really hard. It's really hard to do anything original, and the researchers are hungry to publish. The teachers are hungry to teach, and getting them to do an objective study is really difficult."</p>
<p><i>Chairs' recommendations for improving education scholarship in EM:</i></p> <p>Research training Better funding Stronger research infrastructure Established community of education scholars Greater emphasis on evidence-based teaching</p>	<p>"You know, I think as a specialty, we need an EMBERS for education research. I think that we need training. You know, that kind of, that level, I think the MERC Program is great. I still don't think it goes into the detail needed for really developing true expertise in methodology for education. I think having a little more sophisticated training would be beneficial."</p> <p>"I think establishing, finding mentors. Establishing that relationship as a mentee. You know, at least in emergency medicine, it seems like a very new field."</p> <p>"I think establishing, finding mentors. Establishing that relationship as a mentee."</p> <p>"I think again some ability to release them from the clinical schedule so that they can spend some time understanding the principles around educational scholarship, and have ways to apply that."</p> <p>"It would be wonderful with all the money that ACGME has if they thought about developing some fellowships. We talk about outcomes research from a clinical perspective. We should be thinking about it from the perspective of our next generation of trainees."</p> <p>"I think that we would need two types of resources. I think we need a sort of education institute at the institution. That is, a separate center where there is a critical mass of people who know the pedagogy around education and can provide intellectual resources around that, and it would be great to have it in the department as well, but that would obviously become somewhat expensive. Then it would nice if there were a separate endowment fund, and I think this would probably have to come from the medical school, but even in the department, that could help fund education research because education research is very challenging to fund."</p>

Departments can further support this effort by incorporating this training into educator job tasks and faculty development opportunities.

The 2012 AEM consensus conference sought to bridge the historical gap between educators and researchers by laying out a roadmap for strengthening

scholarly inquiry related to education.<sup>22</sup> The past 5 years have seen notable efforts in terms of faculty development and communities of scholarship on a national scale.<sup>23–26</sup> However, gaps still remain at the institutional level that likely stymie the growth of this academic discipline.<sup>12,13</sup> After careful analysis of the responses of the academic chairs in EM to improve scholarship in education in EM, the authors have provided some suggestions for departmental educators to engage with their chairs to work as partners to begin to foster a climate of educational rigor. We present our suggestions in Table 4 and hope the readers will find these ideas useful and spur other activities that are meaningful to individual programs. The support of academic departmental leadership is essential to the continued development of education scholarship in EM. This support need not be viewed as a blanket call for greater “protected time” to support educational scholarship that is out of proportion to other departmental research priorities. We recommend that departmental leadership facilitate faculty development using existing institutional resources that can provide mentorship and relevant methodologic skill development for budding researchers. These may include school of medicine medical education departments, university-based graduate schools of education that may offer faculty development workshops, or formal degree programs. Extradepartmental collaborations with established researchers at other institutions who can serve as mentors can provide needed expertise that may not be readily available within the home department.

**Table 4**

Recommendations to Those Seeking to Support the Growth of Education Scholarship in Academic EM

Encourage curiosity about education scholarship within your department. Education-themed journal clubs, invited speakers with expertise in education scholarship, and online resources that focus on education (e.g., Academic Life in EM) all provide avenues to spark conversation and ideas.

Support education scholarship on a scale you can afford. Intradepartmental grants as small as a few hundred dollars can help to launch projects that eventually become celebrated innovations and publications. Leverage the interest and excitement of residents and students, many of whom may relate more closely to education-related projects than to clinical research.

Encourage participation in the community of education scholars. Faculty development for budding education scholars should not necessarily be equated with extensive protection from clinical and other educational work. Participation in courses such as the MERC at CORd and Harvard Macy program are achievable for the full-time clinician educator. Sustained mentorship can be fostered through these programs, but may also be found within your own institution. Encourage your faculty to seek out like-minded scholars within your school of medicine and in other clinical departments.

These steps are likely within the reach of most academic departments in EM and can have a large and lasting impact.

## LIMITATIONS

Although we sought a diverse set of participants for this study, our observations are drawn from a small sample of academic EM chairs who have varying levels of expertise and involvement in education scholarship. While it is possible that an outlier opinion could have been derived by extending our interview circle further, we think it unlikely that it would have provided uniform themes upon which future researchers could draw meaningful conclusions. We sought opinions from a diverse group of EM departments (3- and 4-year residency programs, public and private hospitals, geographic representation from throughout North America) and chairs themselves (gender parity, diversity of age and academic background). We were surprised at the uniformity of our subjects' responses. Upon reflection, perhaps chairs themselves represent a more homogenous group than we had originally anticipated.

Further studies examining the characteristics and impact of barriers and how to best support education research and scholarship are required. The perspectives of other stakeholders, such as those of successful education researchers, may provide additional insights to inform a more complete understanding of points to consider when proposing a structure for the advancement of education scholarship in EM. Our data suggest that there may be a mismatch between the perspectives of chairs and the reality that academic faculty face when setting out to accomplish these shared goals.

## CONCLUSION

Academic emergency medicine chairs identified intrinsic and extrinsic challenges to performing high-quality education research, including a lack of formal methodologic training by researchers and lack of access to expertise specific to this type of scholarship. Although these resources may not exist within most academic emergency medicine departments, they may be accessible within the greater infrastructure of local universities and schools of medicine. The chairs we interviewed voiced their openness to supporting faculty development for education scholarship as well as the

availability of funding to support scholarly work. Faculty who wish to pursue education scholarship as a career focus should familiarize themselves with their available local resources and should strategize with their department chairs to establish sufficient support and mentorship.

## References

- Sullivan GM, Simpson D, Cook DA, et al. Redefining quality in medical education research: a consumer's view. *J Grad Med Educ* 2014;6:424–9.
- Sherbino J. Education scholarship and its impact on emergency medicine education. *West J Emerg Med* 2015;16:804–9.
- LaMantia J, Deiorio NM, Yarris LM. Executive summary: education research in emergency medicine—opportunities, challenges, and strategies for success. *Acad Emerg Med* 2012;19:1319–22.
- Cook DA, Beckman TJ, Bordage G. Quality of reporting of experimental studies in medical education: a systematic review. *Med Educ* 2007;41:737–45.
- Reed DA, Cook DA, Beckman TJ, Levine RB, Kern DE, Wright SM. Association between funding and quality of published medical education research. *JAMA* 2007;298:1002–9.
- Chen FM, Bauchner H, Burstin H. A call for outcomes research in medical education. *Acad Med* 2004;79:955–60.
- Horsley T, Galipeau J, Petkovic J, Zeiter J, Hamstra SJ, Cook DA. Reporting quality and risk of bias in randomised trials in health professions education. *Med Educ* 2016;51:61–71.
- Reed DA, Beckman TJ, Wright SM. An assessment of the methodologic quality of medical education research studies published in *The American Journal of Surgery*. *Am J Surg* 2009;198:442–4.
- Cook DA, Levinson AJ, Garside S. Method and reporting quality in health professions education research: a systematic review. *Med Educ* 2011;45:227–38.
- Lurie SJ. Raising the passing grade for studies of medical education. *JAMA* 2003;290:1210–2.
- Sherbino J, Van Melle E, Bandiera G, et al. Education scholarship in emergency medicine part 1: innovating and improving teaching and learning. *CJEM* 2014;16(Suppl 1):S1–5.
- Jordan J, Coates W, Clarke S, et al. Exploring scholarship and the emergency medicine educator: a workforce study. *West J Emerg Med* 2017;18:163–8.
- Yarris LM, Juve AM, Artino AR Jr, et al. Expertise, time, money, mentoring, and reward: systemic barriers that limit education researcher productivity—proceedings from the AAMC GEA Workshop. *J Grad Med Educ* 2014;6:430–6.
- Zibrowski EM, Weston WW, Goldszmidt MA. “I don't have time”: issues of fragmentation, prioritisation and motivation for education scholarship among medical faculty. *Med Educ* 2008;42:872–8.
- Cohen JG, Sherman AE, Kiet TK, et al. Characteristics of success in mentoring and research productivity - a case-control study of academic centers. *Gynecol Oncol* 2012;125:8–13.
- Pololi L, Knight S, Dunn K. Facilitating scholarly writing in academic medicine. *J Gen Intern Med* 2004;19:64–8.
- Zarzaur BL, Valsangkar N, Feliciano DF, Koniaris LG. The transforming power of early career acute care surgery research scholarships on academic productivity. *J Trauma Acute Care Surg* 2016;81:137–43.
- Teufel RJ 2nd, Bekmezian A, Wilson K. Pediatric hospitalist research productivity: predictors of success at presenting abstracts and publishing peer-reviewed manuscripts among pediatric hospitalists. *Hosp Pediatr* 2012;2:149–60.
- Watling CJ, Lingard L. Grounded theory in medical education research: AMEE Guide No. 70. *Med Teach* 2012;34:850–61.
- Glaser BG. The constant comparative method of qualitative analysis. *Soc Prob* 1965;12:436–45.
- Bradley EH, Curry LA, Devers KJ. Qualitative data analysis for health services research: developing taxonomy, themes, and theory. *Health Serv Res* 2007;42:1758–72.
- LaMantia J, Deiorio NM, Yarris LM. Executive summary: education research in emergency medicine—opportunities, challenges, and strategies for success. *Acad Emerg Med* 2012;19:1319–22.
- LaMantia J, Kuhn GJ, Searle NS. The CORD Academy for scholarship in education in emergency medicine. *Acad Emerg Med* 2010;17(Suppl 2):S13–5.
- Love JN, Yarris LM, Santen SA, et al. A novel specialty-specific, collaborative faculty development opportunity in education research. *Acad Med* 2016;91:548–55.
- Coates WC, Runde DP, Yarris LM, et al. Creating a cadre of fellowship-trained medical educators. *Acad Med* 2016;91:1696–704.
- Yarris LM, Coates WC. Creating educational leaders: experiences with two education fellowships in emergency medicine. *Acad Emerg Med* 2012;19:1481–5.

## Supporting Information

The following supporting information is available in the online version of this paper available at <http://onlinelibrary.wiley.com/doi/10.1002/aet2.10070/full>

**Data Supplement S1.** EM department chairs semi-structured interview guide.

**Data Supplement S2.** Coding matrix.