

Emergency Medicine and Beyond: Academic Emergency Physicians With Advanced Training

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The health care climate has challenged U.S. emergency medicine physicians to pursue advanced training. This first-of-its-kind published analysis provides useful information for academic and hospital coordinators and insight into the prevalence and demand for each type of training of interest to all health care professionals.

With an ever-widening range of career opportunities, many emergency physicians (EPs) in the U.S. are choosing to go beyond their residency education to obtain multiple board certifications, fellowship training, and advanced degrees. Since the birth of the specialty in the 1970s, > 40,000 physicians trained in emergency medicine (EM) residencies are practicing in the U.S.¹ Now in an increasingly bureaucratic and multifaceted health care system, physicians are challenged to undergo training in both medical and nonmedical fields, such as by obtaining advanced degrees. These degrees include, but are not limited to, business, public health, administration, research, and law.

Many EPs also have furthered their clinical training to include multidisciplinary dual degrees and fellowship specialty training. In addition to its utility in the clinical, academic, and professional settings, advanced edu-

cation may increase career satisfaction and play a role in faculty and career development.^{2,3} For example, in many cases, graduates of combined EM and internal medicine (IM) programs gravitate toward positions in academic medicine and assume leadership roles.⁴

As of yet, there have been no published data searches to document physicians who have obtained advanced training. Such a resource could provide useful information for academic coordinators in the interest of hospital professional development and provide insight into physicians' choices to obtain such training. An increase in the number of specialized fellowship positions available in the U.S. points to a growing trend for EM physicians.^{5,6} Moreover, dual-degree programs, such as doctor of medicine (MD) and master of business administration (MBA), have increased in both number and participation in recent years, also suggesting a tendency toward multidisciplinary education.⁷ However, data are lacking to gain perspective on the number of U.S. emergency physicians with advanced education backgrounds. In addition, without this baseline, there have been no longitudinal studies to establish trends regarding the prevalence and demand for each type of training.

The objective of this report is to establish a representative sample of

academically affiliated EPs with advanced degrees, multiple board certifications, and fellowship training to create a resource that can be used for faculty and career development and provide a snapshot of multidisciplinary EM.

METHODS **Study Design**

The scope of the project required a sample from U.S.-accredited EM residencies. The sample was populated using published data from the website of the Society for Academic Emergency Medicine (SAEM), www.SAEM.org. Each residency was then researched from May 2010 through July 2010 using publicly available information from individual program websites. This purposeful sample of faculty from the SAEM was chosen to represent academic EPs in the U.S.

Data collected included program contact information, total number of physician faculty (both full- and part-time), and total number of attending physicians with advanced training. Attending physicians with advanced education were further researched to include advanced degrees, board certifications, fellowship and specialty, and faculty ranking. The only exclusion criterion was the limitation of material posted on publicly available program websites, although missing data were supplemented with stan-

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Table 1. Advanced education pursued by U.S. EM physicians

Advanced degree ^a		Fellowship	
MPH	142	Toxicology	74
MS	75	Pediatric EM	56
PhD	69	Emergency medical services	51
RDMS	63	Research	21
MBA	29	Critical care	14
JD	14	International medicine	10
MHA	13	Hyperbaria	8
MEd	9	Sports medicine	8
MA	9	Infectious disease	5
MSc	9	Cardiovascular emergency	4
MPPA	3	EM foundation	4
MPA	1	Disaster medicine	3
RPh	1	Pediatrics	3
MSE	1	Teaching	3
Total	438	Critical care/trauma	2
		Disaster medicine/emergency medical services	2
Board certification		Cardiology	1
IM	69	Clinical research	1
Pediatrics	31	Computer medicine	1
Family medicine	10	ED administration	1
Internal/pediatrics	5	Faculty development	1
Anesthesia	1	Geriatric EM	1
Neurology	1	Hematology/oncology	1
Surgery	1	Medical informatics	1
Total	118	Medical transportation	1
		Neurovascular emergency	1
		Pain	1
		Pediatric pulmonology	1
		Pulmonology	1
		Research/critical care	1
		Substance abuse	1
		Trauma and injury prevention	1
		Tropical medicine	1
		Wilderness	1
		Total	286

^aAdvanced degree/certification: JD = doctor of jurisprudence; MA = master of arts; MBA = master of business administration; MEd = master of education; MHA = master of hospital administration; MPA = master of public administration; MPH = master of public health; MPPA = master of public policy administration; MS and MSc = master of science; MSE = master of science in engineering; PhD = doctor of philosophy; RDMS = registered diagnostic medical sonographer; RPh = registered pharmacist.

EM = emergency medicine; IM = internal medicine.

standardized phone calls to programs to avoid use of any private information.

Data were compiled using a Microsoft Excel spreadsheet and sorted by residency program, faculty position, fellowship, board certification, and advanced degree. The resultant data were divided by degree type and analyzed by percentage of total attending physicians with advanced education degrees.

Ethical Considerations

Data were collected from both the SAEM and the websites of individual residency programs. International review board approval and exemption determination were not necessary, because this report does not involve "human subjects." There were no interactions or interventions with living individuals for research purposes, and the report did not use private identifiable data. All gathered information was available publicly and thus avoided violations in physician privacy.

RESULTS

Data were collected from a total of 147 accredited U.S. EM residency programs, which employed a total of 4,489 personnel, including both full- and part-time physicians. Of this faculty, 784 possessed 1 or more advanced training including advanced degrees, dual board certification, and fellowship training (17.5%). These degrees consisted of 118 board certifications in fields in addition to EM (2.6%) and 286 fellowships (6.4%). Also, 438 degrees (designated in this article as advanced degrees) were pursued (9.8%). See Table 1.

As of July 2010, by this reported sample, > 17% of academic EM physicians in the U.S. have chosen to obtain advanced training. Within this group, the most common advanced degree was master of pub-

lic health (MPH). Among those that had pursued fellowship training in this sample, the most prevalent specialty was toxicology, followed by pediatric EM. By far, the most common dual-certified degree was IM, followed by pediatrics.

DISCUSSION

A large minority of academic EPs has chosen to obtain advanced training in the form of advanced degrees, multiple board certifications, and fellowship training. As of July 2010, > 17% have pursued advanced training. Among these, 9.8% chose to obtain advanced degrees, 6.4% continued their education in the form of fellowship training, and 2.6% pursued multiple board certifications.

The most widely held advanced degree among academic EPs in the U.S. is the MPH. This degree may represent the optimal position for the EP to both screen and intervene across socioeconomic spectrums, as well as the practical public health issue of emergency department (ED) overcrowding and its effects on patient care.⁸ Among fellowship opportunities, the most prevalent among academic EPs was found to be in toxicology. This fellowship may demonstrate a desire for specialty practice positions in poison control centers, as well as research-oriented goals and specialized academic involvement. In addition, IM was the most common dual board certification, which may also represent an interest in increased academic involvement.²

There has been a rise in the number of EPs who choose to subspecialize, become dual board certified, or obtain training in nonmedical fields. The reasons behind acquiring additional degrees include faculty development, increasing job satisfaction, gaining expertise in a particular medical niche, and in-

creasing competitiveness for physician recruitment.² Many EPs take part in advanced research training as a way to build a foundation of knowledge that will improve patient care in the emergency setting.⁹ In addition, physicians may feel the need to better equip themselves for hospital administration roles and for the complexities of modern health care. In the context of faculty and career development, academic EPs with advanced training build specific niches that function to expand the role of the EP in health care and in the community.

LIMITATIONS

This report encountered several limitations while compiling data on U.S. academic EPs. The first was the amount of data available on individual program websites. This study relied solely on publicly available data published online by residency programs, although the data may not be up-to-date or is an under-representation of faculty staffed by particular hospitals. In addition, these data were collected during the time frame of May 2010 through July 2010, and is subject to change, depending on physician recruitment and retirement or termination from institutions. Finally, the sample selected included physicians only from academic institutions with residency programs thus not accounting for prevalence of advanced education among EPs at community hospitals or hospitals without academic affiliations.

FUTURE STUDIES

It is clear that a large minority of EPs have chosen to obtain advanced training, but it remains unclear how each facet of education is being used in the clinical, academic, and management settings. The motivations for pursuing advanced education

degrees may be related to job satisfaction, career development, or a changing health care environment. For example, almost half of EPs with critical care medicine fellowships practice EM and critical care medicine, and the majority work in academic institutions.¹⁰ Also, one of the key issues cited by the Institute of Medicine in its 2008 brief report *The Future of Emergency Care in the United States Health System* was “fragmentation” of the current system.⁸ Physicians with advanced degrees may be well positioned to help integrate different aspects of health care including public health, administration, and management practices. One possible study would be to survey physicians’ opinions regarding the value of their added expertise with advanced training in the ED, as well as whether they felt that their experiences were practical. Also with the baseline provided in this study, a follow-up study could be conducted to compare the prevalence of each type of training for fellowships, board certifications, or advanced degrees that may indicate longitudinal trends in EM and be indicative of a changing health care climate.

CONCLUSION

Until now, there have been no pub-

lished reports to document EPs with advanced education backgrounds. This report serves to create a sample of academically affiliated EM physicians in the U.S. The report further identifies individuals with advanced training, defined as fellowship, board certifications, or advanced degrees, and sorts each type of training by prevalence. These results can then be used for hospital faculty enhancement and institutional academic and career development.

Additionally, the report provides a snapshot of the climate of EM and a tendency toward a multidisciplinary approach to practice in academic medicine. Because EM is a growing specialty, EPs are demonstrating a willingness to build specific niches for their particular backgrounds in an increasingly varied and complex health care climate.

Author disclosures

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