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Emergency Medicine Workforce Issues: Synopsis and Discussion of Presentation by Dr. Carlos Camargo

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We had the pleasure of attending the lecture by Carlos Camargo, MD, DrPH, on emergency medicine workforce issues on June 25, 2011, at the AAPS Annual Meeting. Dr. Camargo, an academic emergency physician from Massachusetts General Hospital and Harvard Medical School, delivered this data-rich presentation. He has published multiple studies related to the emergency medicine workforce shortage within his research focus of public health.

The reality of the healthcare environment is a shortage of emergency physicians. Others¹ have suggested that there is not now, or may even never be, an adequate supply of ABEM/AOBEM certified, emergency residency-trained physicians to meet the needs of all emergency departments in the country. Rural communities have enough trouble attracting emergency physicians without limiting the workforce further. His studies confirm this view. The data strengthen not only the belief that there is an ongoing need for non-emergency medicine residency-trained, non-ABEM/AOBEM certified physicians to help staff emergency departments for the foreseeable future, but also the belief that there must be a sound alternative certifying board.

Readers should explore the workforce calculator on the Emergency Medicine Network website, <http://www.emnet-usa.org/medi/workforce.html>², to see how the different computations do not lead to the stated goal of covering all emergency departments anytime soon or possibly ever. While at the site, also click on the 2009 NEDI-USA link (http://www.emnet-usa.org/medi/medi_usa.htm) to see the makeup of ED visit volumes in your state. The most interesting disparity is the makeup of states in regard to high vs. low volume emergency departments.

Massachusetts is an example of a state that has very few low volume EDs, while Texas, North Carolina, and Montana have a significant number of low volume EDs. The message is that leaders in Emergency Medicine may have very skewed personal experiences – consider the difference in distributions in Massachusetts (Figure 1) versus Montana (Figure 2) and how neither correspond well to the country as a whole (Figure 3). Dr. Camargo and EMNet staff are currently further refining these data, in nine states, to document the capabilities of the facilities in addition to their annual visit volumes.

The EMNet workforce study was a cross-sectional analysis of the 2008 AMA Physician Masterfile. Although this database includes all physicians who have ever obtained a medical license in at least one US state, the information is based on self-reporting from the participating physicians to their state board(s). There was also exclusion of BCEM and AOBEM with the definition of board certification being ABEM certified only.

Some interesting facts from the 2008 workforce study are outlined below:

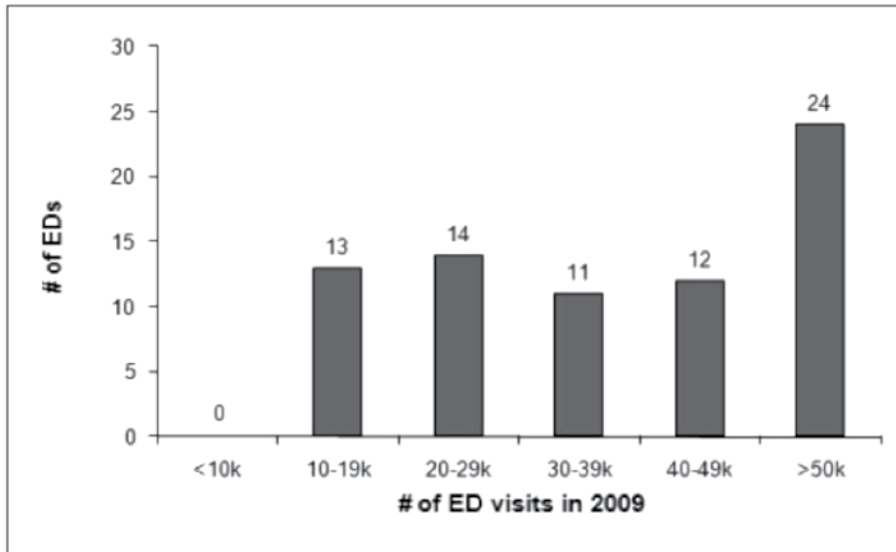
- 39,061 emergency physicians practice in the United States.
- 22,314 (57%) were emergency medicine board certified by ABEM.
- 26,826 (69%) were emergency medicine trained or emergency medicine board certified by ABEM.
- 12,235 (31%) were neither emergency medicine trained nor emergency medicine board certified by ABEM.

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Massachusetts

Total # of EDs	74	Median # of ED Visits	39,263
Total # of ED Visits	3,130,730	Interquartile Range	24,339 - 54,075

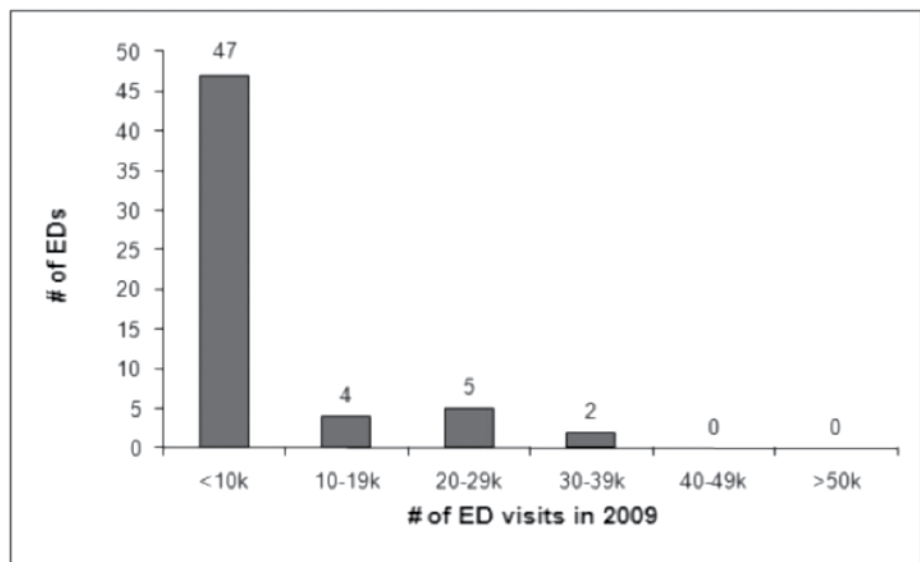


Source: 2009 National ED Inventory - USA

Figure 1. Numbers of emergency departments of varying annual volumes in 2009, Massachusetts, from <http://www.emnet-usa.org/NEDI/MA.htm>, accessed 6/28/2011.

Montana

Total # of EDs	58	Median # of ED Visits	2,650
Total # of ED Visits	377,771	Interquartile Range	750 - 7,138



Source: 2009 National ED Inventory - USA

Figure 2. Numbers of emergency departments of varying annual volumes in 2009, Montana, from <http://www.emnet-usa.org/NEDI/MT.htm>, accessed 6/28/2011.

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2009 National ED Statistics

Total # of EDs	4,967	Median # of ED Visits	19,745
Total # of ED Visits	127,120,372	Interquartile Range	7,990 - 37,290

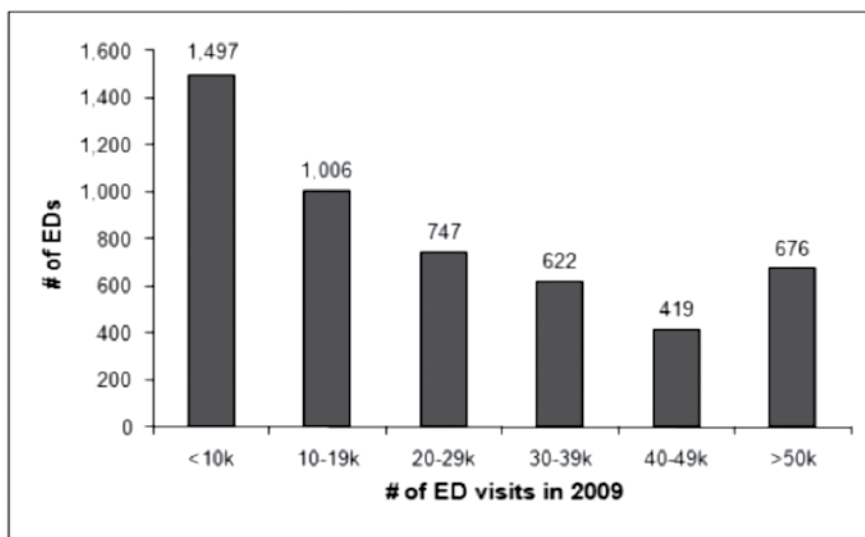


Figure 3. Numbers of emergency departments of varying annual volumes in 2009, entire United States, from <http://www.emnet-usa.org/medi/USA.htm>, accessed 6/28/2011.

- 16,822 (75%) ABEM board-certified emergency physicians had emergency medicine training preceding emergency medicine board certification.

We extrapolate from these data that approximately 5% of the 2008 workforce was BCEM certified (approximately 2,000 in 2008) and approximately 4% was AOBEM certified (1,746 in 2008, per Dr. Camargo's article).

Some facts regarding the non-emergency medicine trained/ABEM certified emergency physicians:

- More than double the proportion were in smaller population and rural areas compared with emergency medicine trained or ABEM board certified emergency physicians.
- Family medicine and internal medicine were the most common residency training backgrounds.
- Most graduated from residency 20+ years ago (69%).
- More than half reported that emergency medicine was their primary specialty.
- Among all emergency physicians 7,433 (19%) reported that emergency medicine was their secondary specialty.

Those from small rural areas were much less likely than urban emergency physicians to have emergency medicine training, to

be ABEM certified, and to have graduated training in the past five years.

Nearly all (98%) of emergency physicians who graduated within the past five years were emergency medicine trained or ABEM certified compared with only 44% among those emergency physicians who graduated 20+ years ago.

The state of the emergency physician workforce in rural EDs is quite concerning but is of great interest to AAPS. Of the emergency physicians who graduated within the previous five years, only 1% are currently practicing in small rural areas and only 5% in any rural area. This is compared with 5% and 15%, respectively, for emergency physicians who graduated 20+ years ago.

Until there are sufficient numbers and distribution of emergency medicine-trained, ABEM/AOBEM certified emergency physicians, there will remain a population of non-emergency medicine-trained, ABEM/AOBEM certified emergency physicians who provide clinical coverage for EDs. These emergency physicians provide a valuable service, because they often fill gaps in access to emergency care, such as in rural EDs that are unlikely to be staffed by emergency medicine-trained, ABEM/AOBEM certified emergency physicians.

To summarize the current workforce status: Two-thirds of clinically active emergency physicians are now emergency medi-

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cine trained or ABEM/AOBEM certified. One-third (12,235) non-emergency medicine-trained, ABEM/AOBEM certified emergency physicians still provide clinical coverage of EDs and are approaching the end of their careers. Furthermore, large geographic disparities in the emergency physician workforce exist, with fewer emergency physicians in Middle America and in rural areas. Finally, demand for all emergency physicians will likely continue for several decades, and the shortage of emergency physicians may even increase in rural areas.

One solution to these workforce shortages that Dr. Camargo discussed was the trend of hospitals using unsupervised mid-level providers (MLPs) in emergency departments – a common strategy being used to stretch the supply of all types of emergency physicians. Indeed, this autonomy is advertised heavily in job postings and is highly sought. But, is it safe? Dr. Camargo presented a recent study of 63 urban EDs comparing adherence to national asthma guidelines when patients were seen by physicians, supervised MLPs, and unsupervised MLPs.³ The guidelines used were administration of inhaled beta agonists within 15 minutes of arrival, prescribing systemic corticosteroids, and avoiding the prescribing of inappropriate antibiotics. The results showed that the unsupervised MLP concordance score was significantly lower than the physician only or supervised MLP scores. MLPs provided unsupervised care in 2% of these patients, but other studies show how this is quickly increasing, with nearly 5% of total ED visits being managed independently by MLPs in 2005.^{4,5} This sacrifice of quality of care is disturbing. If funds permit, Dr. Camargo's research group would like to do further studies of the care delivered by these different care models (physicians, supervised MLPs, unsupervised MLPs); they would examine other common illnesses as well as clinical outcomes.

Lastly, Dr. Camargo advised the audience about ACEP's definition of an emergency physician, published just the previous week. The definition was exclusionary to the non-emergency residency trained, non-ABEM/AOBEM physician. The policy definition is: "An emergency physician is defined as a physician who is certified (or eligible to be certified) by ABEM or AOBEM or an equivalent international certifying body recognized by ABEM or AOBEM in emergency medicine or pediatric emergency medicine, or who is eligible for active membership in the American College of Emergency Physicians. It should be noted that residents in an ACGME or AOA approved residency in emergency medicine are emergency medicine resident physicians." Dr. Camargo does not endorse this definition and will continue to use the term "emergency physician" for all physicians who have chosen to focus their careers on emergency care.

A discussion ensued about how the new ACEP definition could be used to our disadvantage in the future as a good number of AAEP members would not meet the criteria. There were

also discussions about how insurance companies could use this information to deny coverage in the future and how MLPs are making gains while we continue with our infighting within emergency medicine. Fortunately, Dr. Camargo will continue further unbiased and independent studies on the workforce issue that will help define the continued need for our member physicians and other non-EMRT, non-ABEM/AOBEM physicians despite ACEP's exclusionary policies. We owe him and the EMNet research team a debt of gratitude for their groundbreaking studies, particularly in view of the fact that most of their workforce studies have been completely unfunded. If you feel that this research is valuable, individuals can donate money to help fund future workforce studies. Please see the EMNet website for details on how to make a tax-deductible donation: <http://www.emnet-usa.org/give.htm>.

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References

1. E.g., Institute of Medicine; Future of Emergency Care in US Health System. *Ann Emerg Med.* August 2006;48:2:pp 115-120.
2. The majority of the data presented from Dr. Camargo's lecture is reproduced on the Emergency Medicine Network website at <http://www.emnet-usa.org/confirmed> by linkage on June 30, 2011. Dr. Camargo is a contributor to this site, and the site mission is "to advance public health objectives through diverse projects in emergency care, particularly through clinical research."
3. Tsai C, Sullivan AF, Ginde AA, Camargo CA. Quality of emergency care provided by physician assistants and nurse practitioners in acute asthma. *Am J Emerg Med.* May 2010;28:4:pp 485-491.
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5. Ginde AA, Sullivan AF, Blum CF, Camargo CA. Use of midlevel providers in US EDs, 1993 to 2004: implications for the workforce. *Am J Emerg Med.* Jan 2010;28:1:pp 90-4.