Emergency Medicine Fellowship Trained Family Physicians: Outcomes 2000-2008

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Keywords

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Abstract

Context

Few emergency medicine residency trained physicians practice in rural areas upon graduation. Family physicians are known to practice in rural locations at a higher rate. The distribution of emergency medicine fellowship trained family physicians from 2000-2008 of one program was examined. The continuing medical education (CME) pursued by these individuals is presently unknown and was explored.

Methods

All graduates (n=25) of a one-year clinical emergency medicine fellowship at the University of Tennessee Graduate School of Medicine – Knoxville (UTMCK) were surveyed regarding work location and their CME interests. Determination of the location of current service and the percentage of graduates working in rural areas was compared to present data for emergency medicine residency program graduates. Rurality was estimated by population of county < 10,000, one hospital/county, use of Rural Urban Commuting Area (RUCA) codes over four, and Human Resource and Services Administration (HRSA) designated physician shortage areas.

Findings

The response rate was 68%. Four out of 14 respondents (29%) working in emergency medicine worked in rural areas as compared to emergency medicine residency trained physicians who distribute rurally at an estimated rate below 8%. Most of the fellowship graduates working in emergency medicine (11 of 14 [79%]) worked in counties designated by HRSA as physician shortage areas.

Conclusions

Our program demonstrated higher rural and underserved distribution rates than is reported in the literature for emergency medicine residency trained physicians. General emergency topics, advanced airway training, and ultrasound training were listed as topics of CME interest for this group.

Introduction

There is a shortage of physicians in rural America.[1] Emergency physicians are no exception.[2,3,4] Emergency medicine residency programs are primarily urban and graduates of emergency medicine residencies generally fail to geographically distribute to rural areas.[2,3,4,5,6] Some academic emergency medicine physicians propose rural rotations or rural emergency medicine residency to encourage rural emergency practice.[7] Data from these propositions are not yet available to determine if graduates from these programs will distribute to rural areas. Some emergency physicians maintain that the standard way to train emergency medicine physicians is in an emergency medicine residency.[8]

Federal funding for a boarded family physician to retrain in an emergency medicine residency is currently unavailable [9,10] This may limit the opportunity for a physician who has completed a family medicine residency from obtaining an emergency medicine residency position. Family medicine physicians are the most likely specialty to distribute to rural America.[11,12,13,14,15] A new proposed solution is to graduate physicians from a combined five-year emergency medicine and family medicine residency program.[16] As there are not yet any graduates from a combined program, evidence of rural practice is not available.

In 2000, a clinical one-year emergency medicine fellowship was initiated at the University of Tennessee Graduate School of Medicine-Knoxville (UTMCK).[17] The training was available to graduates of an accredited three-year family medicine residency by either the American College of Graduate Medical Education (ACGME) or American Osteopathic Association (AOA).[18,19] The program was accredited by the American Board of Physician Specialists (ABPS) and provided a pathway to certification in emergency medicine by that board.[20] The program was modeled after the Canadian certification of special competency in emergency medicine for family physicians.[21] The Knoxville program provided nine months of training in a high-volume level one trauma center emergency department, one month in a high-volume pediatric emergency department, and one-month rotations each in trauma surgery and medical intensive care at UTMCK. Fellows were trained in a location without an emergency medicine residency. Weekly didactic sessions took place reviewing the medical literature related to emergency medicine. Clinical and procedural skills were discussed through faculty, fellow, and resident presentations.

The emergency medicine fellowship was an attempt to develop physicians for rural emergency medical practice. Specifically, the fellowship provided advanced emergency care training following family medicine residency. On admission to the program there were no controls for age, place of birth, or other factors known to influence rural distribution of physicians.[22] This paper reflects a subset of eight years of graduates of family medicine physicians after completing an additional year of training in emergency and high acuity care. The purpose of this study was to evaluate the success of the program in locating trained physicians in emergency departments in rural America and to assess their perceived CMS interests.

Methods

All those who completed the emergency medicine fellowship between the years of 2000 and 2008 were included in this study. A one-page survey was mailed to the last known address of all physician graduates of the emergency medicine fellowship. (Sample of survey included in Appendix A.) Investigation review board approval was obtained. As many doctors work in more than one emergency department, we asked the respondent to reply regarding the department where the graduate worked most of the time. A one-dollar bill was attached in an effort to entice the completion of the survey. The survey was developed by Drs. Keenum and Rawlings and was based on a literature search, especially the 2004 West Virginia Workforce Study, and from questions site visitors from the ABPS stimulated during their accreditation site visit. No repeat mailings were sent. A copy of the survey is appendix A.

We determined rurality by population of county < 10,000, one hospital per county, use of Rural Urban Commuting Area (RUCA) codes over four, and Human Resource and Services Administration (HRSA) designated physician shortage areas.[12,23,24]

Results

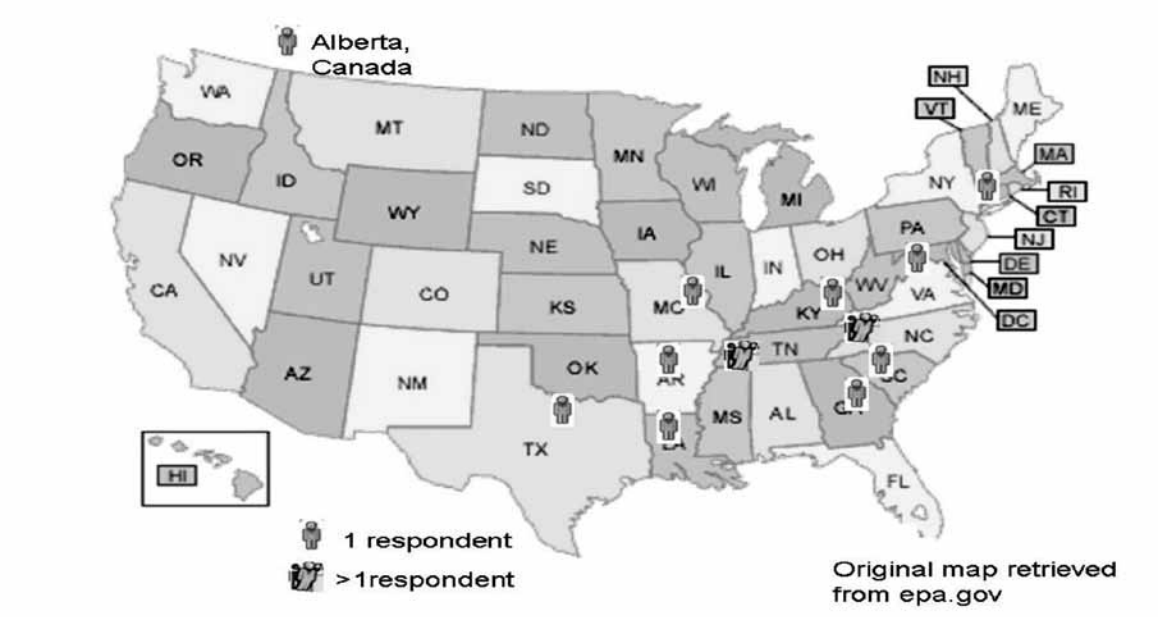
There were 25 graduates of the program between 2000 and 2008. There were 17 responses (68%). Fourteen of 17 (82%) respondents declared that they worked 80% or greater in emergency medicine. One respondent stated that his/her time was split 50/50 between emergency medicine and urgent care. Two physicians replied that they worked 20% or less of their time in emergency medicine, spending greater than 80% of their time in family medicine. Only those 14 doctors who listed 80% or greater emergency medicine work were included in further evaluation.

Five of fourteen (36%) of the doctors who worked mostly in Emergency Medicine worked in counties with only one hospital. An estimated four out of 14 respondents (29 %) work in rural areas as compared to emergency medicine residency trained physicians who distribute rurally at a estimated 8% percent.[25] Most of the respondents 11 of 14 (79%) listed work location zip codes in HRSA-designated physician shortage areas.[24] The locations of practice showed a wide geographic dispersal of graduates (see Figure 1).

Two of fourteen (14%) physicians are Board Certified in Emergency Medicine (BCEM) through the American Board of Physician Specialists (ABPS). None had taken only the written or oral exams in the pathway toward BCEM certification. A surprising eight of the remaining 12 (75%) graduates did not claim to be BCEM-board eligible, although they are eligible to continue the pathway toward boards after completing the fellowship program. One respondent was enrolled in an American College of Graduate Medical Education (ACGME) Emergency Medicine Residency after the fellowship and was American Board of Emergency Medicine (ABEM) board eligible.

Graduates were asked about the physician training requirement to work in their emergency department. The person in the ACGME residency responded that his location required ABEM boards. The Canadian graduate worked in a department that accepts the Canadian college of family medicine residency with concentration and testing in emergency medicine (CCFP-EM), and the Canadian Association of Emergency Medicine by the Canadian Royal College Residency Graduate (CAEP) boards. All others (88%) responded that primary care boards plus Advance cardiac life support (ACLS), pediatric advanced life support (PALS) and advanced trauma life support (ATLS) were the minimum training requirement to work in their present department.

Figure 1: Map of geographic distribution of survey respondents



Graduates were also surveyed with regards to CME pursued since completing the fellowship. General emergency medicine was the most common topic listed followed by advanced airway and ultrasound training.

Discussion

Most of the graduates of the emergency medicine fellowship completing our survey worked predominantly in emergency care. A significant percentage of graduates from this program worked in rural areas (29-35%) dependent on the method of assessment of rural practice. A higher percentage of graduates practiced emergency care in rural areas from this program than the percentage of graduates from emergency medicine residency programs, although the data are difficult to compare. An estimated 8% of emergency medicine residency trained doctors is obtained if large rural (6%) and small rural (2%) areas are added together as provided in the article by Ginde, Sullivan, and Camargo, *National Study of Emergency Physician Workforce 2008*. This point is repeated in the article: the more rural the care the less likely the physician has emergency medicine residency training,[25]

Our program is small compared to the many physicians in emergency medicine residency training programs across the United States. The locations of practice show a wide geographic dispersal of graduates.

The American Academy of Family Medicine 2009 position paper (AAFP-PP) on delivering emergency care—*Critical Challenges for Family Medicine: Delivering Emergency Medical Care-Equipping Family Physicians for the 21st Century*—recommends family medicine physicians working in emergency care should maintain CME in emergency care.[26]

Our study was limited by several factors. The number of graduates was small and some of their contact information was outdated. An increased percentage of returned surveys may have been possible if the authors had sent repeated mailings or utilization of American Medical Association (AMA) or American Osteopathic Association (AOA) registries for the current address of former graduates. Blinding was attempted but was not truly possible because the first author knew many of the fellows personally and could identify some subjects from handwriting samples and last known location. The entire work history was not requested; some graduates may have worked in a rural area and later moved to an urban area or may have worked in the city and later moved to a rural setting.

Table 1: Emergency Medicine (EM) Fellowships* as Listed at ABPS or AAFP Websites in June 2009.

EM Fellowship Name	Location
Sparks Health System	Ft Smith, AR
Premier Health Care Services	Dayton, OH
University of Tennessee	Jackson, TN
University of Tennessee	Knoxville, TN
University of Tennessee	Memphis, TN
Premier Health Care Services	Huntington, WV

*Following Family Medicine residency training.

www.aafp.org/fellowships/other.html
www.abpsus.org/certification/emergency/eligibility.html

There are similar programs to the one described here. The University of Tennessee presently sponsors programs in three locations: Knoxville, Jackson, and Memphis. These three programs are accredited by the ABPS and links are provided from the

ABPS web site. Other programs are listed on AAFP website for fellowships. They are listed in Table 1.

Discussion of this method of physician training would be incomplete without discussing the complexity of funding such a program. The issues are well described and referenced in the AAFP-PP.[26] Rodney et al first published this model in 1998.[27] The lack of a certificate of added qualification (CAQ) prevents funding this training by indirect medical education (IME) and direct medical education (DME) in the manner most family medicine and emergency medicine residencies are funded.[9, 10] Fellowships in geriatrics and sports medicine are funded by IME and DME as they lead to a certificate of added qualification (CAQ).

The emergency medicine fellow's clinical work generates clinical dollars. The clinical dollars are generated in a separate setting from where the graduates, in most cases, eventually work. If clinical dollars can be donated to the program in the form of an educational grant, fiscal viability of the program is possible. Similar programs designate the training fellows as family medicine faculty and pay them from the funds created from clinical care the fellows provide, as they are board eligible or board certified in family medicine when they begin the emergency medicine fellowship.

In conclusion, we offer a small but tested solution to the problem of emergency physician care in rural America. The data represent a period of time for a pilot study. The problems are well understood, but most proposed solutions are untested. Our program illustrates cooperation between emergency medicine residency trained physicians and family medicine residency trained physicians. Higher rural and underserved distribution rates are achieved with the Emergency Medicine Fellowship than are reported in the literature for emergency medicine residency trained physicians. Many of the graduates provide rural emergency care or care in underserved areas after completion of one year of additional training following family medicine residency.

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Appendix A: Sample of Survey of Emergency Medicine Fellowship Graduates August 2008

UT EM Fellowship Graduate Survey Year of Graduation (from EM Fellowship)_____

How many hours per week, on average, are you working as a physician?_____

% in EM _____ % other medicine _____(specify)

What is the population of your town? (circle one)

less than 10,000 10,000-20,000 20,000-50,000 greater than 50,000

What is the zip code of the ED where you work the most hours? _____

Number of hospitals in your county?_____

Number of Emergency Departments in your county? _____

Number of Emergency Department locations you work in (average per month)?_____

Does the Emergency Department where you work have a physician opening? (circle one) Yes No

If yes, how many physicians are needed?_____

What are the basic qualifications for a doctor to work in your primary ED? (check all that apply)

_____ BCEM _____ ABEM _____ AOBEM _____ Primary care boards plus ACLS, ATLS, PALS

_____other, please specify_____

Number of physicians in your EM department who are not board eligible for either ABEM, AOBEM or BCEM? _____

Are you board certified by the AAPS? (circle one) Yes No

Have you taken the AAPS written exam? (circle one) Yes No Oral Exam? (circle one) Yes No

Are you board certified by the ABEM? (circle one) Yes No BCEM board eligible? (circle one) Yes No

What education have you pursued since completing the EM Fellowship? (Check all that apply)

_____ Completed ACGME accredited Emergency Medicine Residency

_____Airway Advanced Training_____Ultrasound Training

_____General Emergency Medicine_____Other, please specify _____

What educational suggestions would you have for the EM fellowship year that could enhance your practice skills today?

_____

_____

_____