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Emergency medicine: the growth of training programs and residency positions 1971–2001

Abstract  Purpose: Over the past 30 years and especially in the last decade, emergency medicine has grown rapidly. The purpose of this study is to review the diffusion and distribution of emergency residencies in the United States. Methods: Data on spatial distribution and residency numbers were obtained from the AMA Annual Directory of Graduate Medical Education. Results: The growth of emergency medicine has been substantial, encompassing 121 programs in 33 states. Currently, nearly 3,600 residents are in training, nearly double the number of trainees 10 years ago. Conclusion: The rapid growth of the pool of emergency medicine physicians is now and will be increasingly a force to reckon with in the allocation of responsibility for performance and interpretation of emergency imaging studies.

Keywords  Emergency medicine – Residency programs – Growth – Diffusion

Introduction

Emergency medicine has captured the imagination of the American public. ER has been and remains one of the most watched weekly television shows. It has helped to perpetuate the mystique of the hospital emergency suite as a place where life and death dramas take place, often with the emergency physician decisively applying his expertise in the service of the desperately ill.

Emergency medicine has also captured the imagination of senior medical students. Over the past two decades, with increasing frequency they are choosing to pursue a career in this specialty. The proliferation of training programs nationwide clearly reflects the popularity of emergency medicine. The purpose of this paper is to describe, in detail, the growth of ER residencies both in time and space in the United States. We will also discuss the implications of a steadily enlarging pool of board-certified ER physicians with respect to the provision of imaging in and about the emergency radiology suite.

Materials and methods

The data pertinent to previous and present distributions of residency positions are derived from the American Medical Association’s annual publications, which before 1993 were entitled Graduate Medical Education Programs. Since 1993 they have been renamed The Graduate Medical Education Directory, commonly referred to as “The Green Book.” The data related to the number of academic programs were derived from lists provided by the Society for Academic Emergency Medicine.

Results

The number and distribution of programs

At present (fiscal year 2000–2001) there are 121 training programs for emergency medicine in the United States. Seventy-seven, or 63.7%, are university-, i.e., academic-based, the remainder are stand-alone programs not sponsored by a medical school [1]. They are predominantly situated in the more urbanized parts of the country, especially in the Northeast and, to a lesser extent, in the Midwest, with most in metropolitan areas. Surprisingly, Texas, which ranks second in population has only four programs, and Florida, the fourth most populous state, has just two programs, whereas there are 16 in New York, 10 in Pennsylvania, and 10 in Michigan.

Most states of the Midwest or Southeast that occupy a middle rank with respect to population have only one or two emergency medicine programs. In nearly all cases they are university-based and are situated at the main teaching hospital of the state’s public medical school. California contributes a sizeable allotment to
the roster of training programs, yet it has only 13 programs – 2 fewer than New York, despite the fact that California has nearly twice the number of inhabitants. It is noteworthy, too, that Iowa, Nebraska, Kansas, Oklahoma, and Utah have no emergency medicine residencies. Moreover, in Washington there is only one training program, which is located at a military facility.

Although the distribution of academic programs reveals a preponderance in the larger industrial states of the Northeast and Midwest, there are notable exceptions. New York and Pennsylvania have together 23 programs, whereas in New Jersey, with a population of slightly more than 8 million people, there are only 3. Furthermore, Massachusetts, in many other respects a leader in medical education, has only four training sites in emergency medicine.

Growth of programs 1971–2001

Figure 1 depicts the growth over the last 30 years of academic programs in emergency medicine. Through the 1970s and early 1980s there were very few available training sites in this specialty in academic medical centers in the United States [2]. The total first surpassed ten only in 1984. Beginning in 1987 and for the next 10 years a remarkable increase took place such that by 1997 more than 60 medical schools had set up residencies in emergency medicine [2, 3, 4]. Since then growth has leveled off somewhat, yet each year reveals a further accretion in the number of medical-school-sponsored residencies.

Number of residency positions

Figure 2 depicts the number of residents in all training programs in emergency medicine for each year from 1990–1991 to 2000–2001. In 1990 there were approximately 1800 postgraduate positions in emergency medicine. The pool has expanded every year since then. Currently, there are 3,595 training positions, representing an approximate doubling of the ER residency complement in the past decade. The results of the most recent match indicate that all programs but one filled all their first-year slots for the 2001–2002 fiscal year [5].

The distribution of residents between nonacademic and academic programs reflects very closely the number of programs in these two categories (Fig. 3). One thousand two hundred and seventy (or 35%) of trainees are in nonacademic programs and 225 (or 65%) are in those with medical school sponsorship. The concentration of programs in the Northeast and Midwest is even more pronounced when considered from the perspective of the number of residents. California programs have places for 367 trainees, while in New York there are currently 749 positions, all of them filled, in the first postgraduate year (PGY-1) and PGY-II and PGY-III years in emergency medicine. Three hundred and ten residency slots are occupied by trainees in Pennsylvania, 211 in Ohio, and 214 in Michigan. Among the more populous states New Jersey, with only 67 residents, and Florida, with 76 residents, stand out. In fact, the ratio of emergency medicine residents to population in Florida is approximately 1 in 210,000. In contrast, in New York it is approximately 1 in 58,000 – nearly a six-fold difference.