

Medical Practitioner Supply from a National Perspective

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Medical practitioners are the central asset of our health care system. As a society we have committed substantial resources to preparing skilled and effective professionals. We use public tax revenues and funds collected under the Medicare program to support their training. Our state and federal laws give them special privileges and freedoms to treat injuries and cure disease. For these reasons, the question of whether there are enough practitioners to meet the health care needs of our population is a public issue.

Medical care in the United States through much of the twentieth century had been the exclusive preserve of physicians. In 1950, the professional medical care supply for the nation could be described almost exclusively by the total number of allopathic physicians in active practice. There were alternative groups of practitioners but their numbers were small and they were not fully recognized as “doctors” in many states. At that time, most physicians were generalists practicing in small communities and larger cities and many rural parts of the country had no doctor. By 1960, the nation began to recognize there was a doctor shortage and that it was primarily affecting the generalists. By the late 1960s and into the 1970s, Congress took note and began to support the medical education of primary care practitioners and to encourage them to practice in less well served communities.

Some of the programs developed included the National Health Service Corps (NHSC), which placed doctors in health professional shortage areas; Area Health Education Centers (AHEC), which trained doctors in rural settings; and a series of programs that came to be known under the generic term Title VII, which encouraged minorities to consider medical careers and promoted the development of family medicine and primary care training programs. In the 1980s, federal programs were introduced to support rural practice and training.

Over the same time, states also recognized their role in expanding the supply of physicians and began the process of expanding the medical franchise to other professions. In the 1960s and 1970s, new medical schools were opened to train predominantly primary care physicians with an emphasis on rural practice. East Carolina University, East Tennessee State University, The University of South Carolina, and Eastern Virginia Medical School were all of this generation of new, primary care-oriented medical schools. The profession of physician assistants (PAs) was developed at Duke University and the University of Washington, and programs to train nurse practitioners (NPs) were opened. North Carolina graduated the

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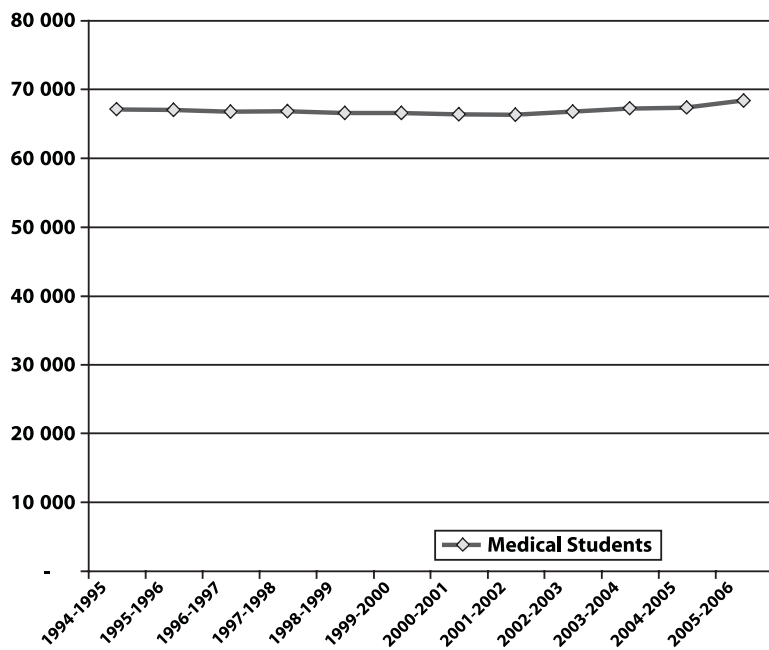
first NPs who were soon working in the state’s new rural health clinics (RHC), which were developed by the nation’s first Office of Rural Health.^a

These national and state efforts should have alleviated the problems of physician supply and distribution, but they have not. In 2007, we are still talking about an impending shortage of doctors, as well as nurses, and a need to reorganize the structure and financing of medical care to achieve an effective health care delivery system focused on the patient with primary care, or as

a See the January/February 2006 issue of the *North Carolina Medical Journal* for detailed descriptions of the rural programs.

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Figure 1.
Total Enrollment in US Medical Schools, 1994-2006

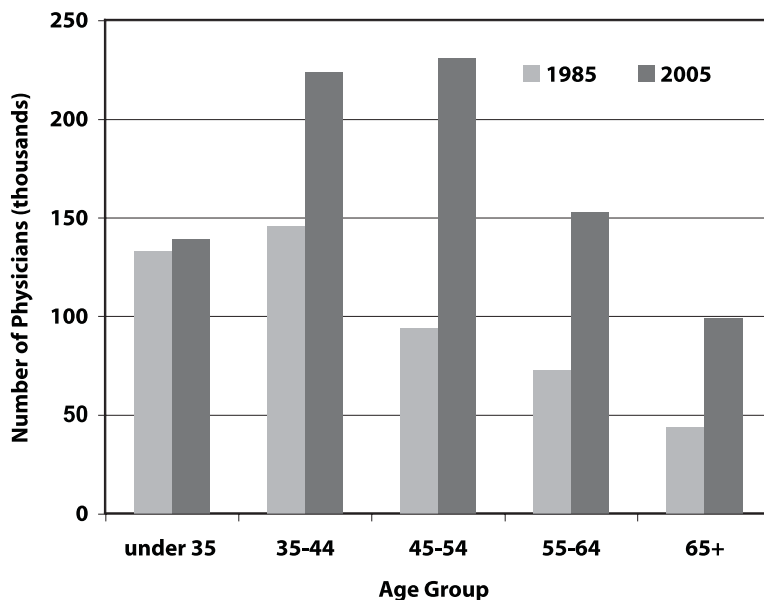


Source: Barzansky B, Etzel SI. Medical schools in the United States, 2005-2006. *JAMA*. 2006;296(9):1147-1152.

we now term it, the medical home, at the center of the system. One primary reason for this situation is the countervailing influence of the largest input into physician training—graduate

United States while the population has grown and become proportionately older. We have expanded the number of new primary care clinicians we train—nurse practitioner and

Figure 2.
Age Structure of US Physician Supply



Source: Association of American Medical Colleges. Center for Workforce Studies. Help wanted: More U.S. doctors. Washington, DC: AAMC; 2006. <http://www.aamc.org/workforce/helpwanted.pdf>. Accessed April 23, 2007.

medical education payments. Graduate medical education payments go to teaching hospitals through the Medicare and, to a lesser extent, Medicaid programs. They are combined with the physician component of the reimbursement structure of Medicare itself and tend to favor specialty medicine practiced in large cities.

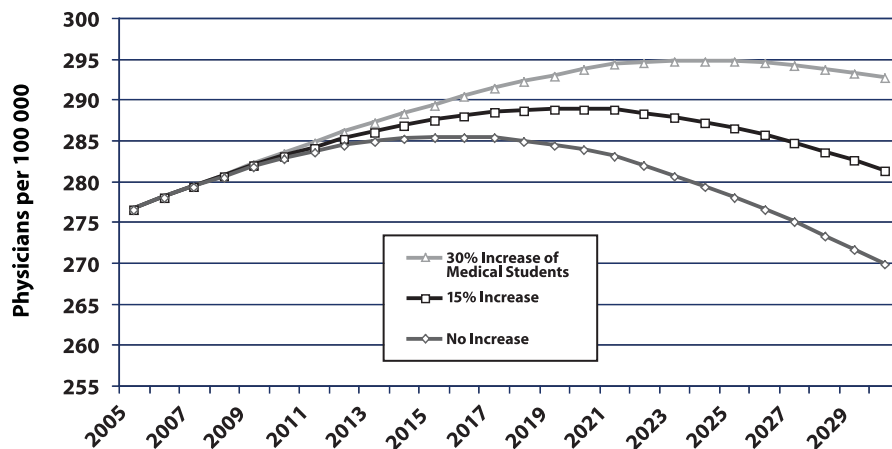
The past 30 years have seen a diffusion of authority and privilege to other practitioners. Thus, we need to look beyond physicians to understand how many and what kinds of human resources are available to meet our health care demands and needs. Nurse practitioners, physician assistants, and certified nurse midwives have become important contributors to the equation that balances supply of practitioners to needs and demands for health care.

In this first decade of the 21st century, we are faced with the question of whether we have the right number and the right kinds of health care practitioners in the right places to meet our current health care requirements. This is due to a growing recognition that we have not invested in expanding the ways and means to prepare physicians in the

United States while the population has grown and become proportionately older. We have expanded the number of new primary care clinicians we train—nurse practitioner and physician assistant programs have increased rapidly in recent years. For example, in 1990 there were 1000 students enrolled in PA programs; by 2005 that number grew to 4460. There were an estimated 140 000 nurse practitioners at work in the US in 2005, up from 104 000 in 2000. Despite that growth, these new clinicians will not allow us to meet growing requirements brought on by population growth, especially among older people, and to utilize the opportunities to cure and prevent disease fostered by technology changes.

A tightening in physician supply appeared during the period around 2000. Studies of consumer and practitioner behavior found patients waiting longer for appointments and physicians reporting inadequate time with their patients.¹ One promising development in the supply situation during this period was that physicians did work more often with nurse practitioners and physician assistants. In 1980, the ratio of first year medical students per 100 000 people in the US began a steady decline from 7.3 that year to 5.6 in 2005.² This trend in medical education reflects the

Figure 3.
Anticipated Trends in US Physician Supply



Source: AAMC Center for Workforce studies. Unpublished data, 2005.

policy decisions of earlier decades based upon incorrect predictions of a persisting physician surplus by 2000 and beyond.

In response to those predictions, there were practically no new allopathic medical schools established in the US between 1980 and 2000, and total medical school enrollment stayed steady at around 68 000 students. In 1985 there were 126 allopathic medical schools graduating 16 117 students. In 2006 there were 17 370 entering first year medical students in 125 allopathic medical schools, a very meager growth rate of 7% given the US population grew 25% in the same period. In 1985 there were 1560 osteopathic medical students graduating from 15 schools. In 2005 there were 2740 from 20 schools. The growth in the number of osteopathic medical schools has been rapid and will continue; six new schools opened since 2000 and 6 more are set to open. In comparison, there are only 2 new allopathic schools, both in Florida, that are on schedule to

accept students. Osteopathic medical doctors are licensed equivalently in all of the states with osteopaths practicing more often in primary care and rural areas than allopathic physicians.

This slowdown in production has been filled in the recent past by international medical graduates (IMGs) coming into the US for their post graduate training or as immigrants. Slightly more than a quarter (25.3%) of all US physicians are IMGs. Half of these are US citizens or permanent residents.³ Similarly, a quarter of all physicians in post-graduate training (residencies) are IMGs. Again, 45.6% of these are US citizens or permanent residents.⁴

This trend may not persist because many other nations have also turned to our traditional sources of IMGs to bolster their medical practitioner supply. Furthermore, there are efforts to stem the importation of physicians into the developed countries to stop what has been termed “brain drain,” which is seen as thwarting health status improvement in the developing world.⁵

The term “shortage” has evoked a good deal of controversy because many see the human resource problem of our health system as being a problem more of organization and financing than of numbers. However, there is more predictability in the demography of the workforce than there is in the policies that structure those professionals. The demographic trends point clearly toward a period of stress between what we expect from medical practitioners in terms of numbers and access to care and what can be delivered. **NCMJ**

REFERENCES

- 1 Trude S. So much to do, so little time: physicians capacity constraints, 1997-2001. *Track Rep.* 2003 May;(8):1-4.
- 2 Association of American Medical Colleges. Center for Workforce Studies. *Help wanted: More U.S. doctors.* Washington, DC: AAMC; 2006. <http://www.aamc.org/workforce/helpwanted.pdf>. Accessed April 23, 2007.
- 3 Smart D. *Physician Characteristics and Distribution in the US, 2006 Edition.* Chicago, IL: American Medical Association; 2006.
- 4 Brotherton SE, Etzel SI. Graduate Medical Education, 2005-2006. *JAMA.* 2006;296(9):1154-1169.
- 5 Mullan F. The metrics of the physician brain drain. *N Engl J Med.* 2005;353(17):1810-1818.