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EDITOR'S PAGE

Cardiology Workforce Revisited

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As evidenced by two articles in a recent issue of the *New England Journal of Medicine* (1,2), concerns regarding the adequacy of the supply of physicians has again come center stage. The past few years have seen projections of physician shortages issued by the Council on Graduate Medical Education, state agencies, medical organizations, and medical societies. Concerns about insufficient physician numbers have led the American Association of Medical Colleges to call for a 30% increase in the number of incoming students in schools of allopathic medicine by 2015 (1).

The premises upon which the prediction of a physician shortage is based are both rational and intuitive, if nevertheless speculative. The population of the U.S. continues to grow while medical school enrollment has essentially remained fixed. Moreover, physicians are increasingly opting for lifestyles that reduce the number of working hours, and are often slowing down or retiring from practice at a younger age. Of equal or greater importance is the anticipated increase in demand for physician services. The aging of the population will result in higher disease prevalence, and trends clearly show increased physician utilization, particularly for those over age 45 years. The potential for accurate genetic and other screening tests, new medical procedures, and longer life spans owing to effective therapies would also increase physician demand.

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Nevertheless, the premise that the foregoing factors have or will result in a physician shortage are by no means universally accepted. Goodman et al. (2) argue that the maldistribution of physicians in terms of geography and specialty is a greater problem than an insufficient number of physicians. They point to the evidence that a greater physician to population ratio does not invariably lead to better outcomes or satisfaction for patients. In fact, the fragmentation of care that may accompany specialty medicine in high-density physician locales could result in a reduction in quality.

It is not my intention here to discuss the data and rationale supporting or rebutting the contention that there is or will be a physician shortage. These issues have been well delineated in many other articles. Personally, I think it is irrefutable that there will be a deficit of physicians, at least of cardiovascular specialists, in the near future. Even at present, trainees completing our fellowship have abundant job opportunities at attractive salaries, and colleagues in practice are increasingly seeking associates to join their practices. My main goal in this piece, however, is to reflect upon several specific aspects of physician supply, especially as they relate to cardiovascular disease.

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As a first thought, I find it difficult to put serious stock in any of the projections regarding manpower. In the last 30 years I have witnessed a dizzying array of contradictory predictions and consequent actions regarding cardiology manpower. During my fellowship, it was dogma that a substantial shortage of physicians existed. This resulted in government funds to support fellowship training and loosening of restrictions on the admission of international medical graduates (IMGs). By the early 1980s, authorities proclaimed that the implementation of managed care and gatekeepers would result in a profound excess of cardiologists, which resulted in a contraction of fellowship positions. In addition, I can recall having many conversations with talented medical residents who

were reluctant to pursue cardiology training for fear that no jobs would be available when they were finished. Interestingly, although the prior projections lacked accuracy, they were espoused with great confidence. We have now come full circle with urgent calls to ramp up the production of cardiovascular specialists. The failure of those earlier predictions to be realized has not diminished the confidence in the latest forecast.

Whatever the state of overall medical manpower, I believe that there are many unique issues with regard to the supply of cardiovascular specialists. Cardiology was one of the "poster boy" disciplines used to exemplify the proposed excess of specialists. In my experience no other specialty, with the possible exception of anesthesiology, was as impacted by the belief that an oversupply of specialists existed as was cardiology. Not only did this result in a reduction of fellowship positions, but it even provoked the institution of "retraining programs" in internal medicine. We are now in the position of playing catch up because of this mistaken concept. Moreover, there are numerous factors that should create an even greater demand for cardiovascular specialists than for other physicians. Cardiovascular disease remains the number one cause of mortality, and the aging of the post-war baby boomers will result in a population bolus in the atherosclerotic age group. The near epidemic of obesity and diabetes also promises to increase the prevalence of cardiovascular disease. Our specialty has experienced more technological innovation than most and is brimming with new diagnostic and therapeutic services to be provided to patients. Therefore, regardless of the state of overall physician manpower, there can be little doubt that the future demand for cardiovascular specialists will be great.

One of the more complex manpower issues, and one that has received particular attention recently, is the role of female physicians. On the one hand, women currently comprise approximately 50% of medical students and represent an enormous repository of talent and ingenuity. Any effort to increase the supply of cardiovascular specialists must include attracting female physicians. However, female physicians have not traditionally been drawn to cardiology. Although the reasons for this are not clear, the lifestyle compromises inherent in the long and often unpredictable working hours likely play an important role. In this regard, it has been speculated that female physicians may be contributing to a manpower shortage, because studies show they work 15% to 20% fewer hours than men (3). This may be due to time off for child bearing and possibly to the traditionally greater role that women have been expected to fill in the family than men. In any event, the combination of the extra-professional demands upon women and the long and unscheduled working hours of cardiologists represent a formidable obstacle that must be overcome if we are to address manpower needs by attracting female physicians to the specialty.

Another important issue regarding manpower involves IMGs. These physicians often come to the U.S. for training and wind up staying. That the supply of physicians did not fall during the self-imposed limitation on student numbers implemented by medical schools from 1980 to 2000 was due to the influx of foreign graduates. The IMGs represented 25% of practicing physicians in 2005 (1). The IMGs have made many outstanding contributions to cardiovascular medicine and have not only served to deliver excellent clinical care to our citizens, but have also been leaders in academic research and teaching. Foreign graduates have been and will continue to present an attractive answer to any deficit of physician supply. However, luring or recruiting physicians to the U.S. from poorer countries, where they constitute a precious resource and are badly needed, represents an ethical dilemma. Recognizing that IMGs have the desire and the right to practice at the level at which they have been trained, I still believe it would be deplorable for a wealthy country like the U.S. to correct any physician shortages by filling those positions with physicians from overseas.

One aspect regarding the supply of cardiovascular physicians that seems unequivocally true is that the issue will intermittently emerge for the foreseeable future. Given the rapid changes in the science of cardiovascular medicine, any predictions should be made with great caution. Nevertheless, certain issues regarding manpower will always be present and may be of particular significance to cardiology. Atherosclerotic disease is likely to remain the major cause of death for generations to come, and therefore, cardiovascular medicine will be particularly susceptible to a physician shortage or maldistribution. Likewise, the increasing number of female physicians will present some unique challenges to the cardiovascular community as we attempt to access these individuals for their talents and for their potential role in addressing manpower needs. Finally, the role of IMGs will continue to present a major ethical dilemma, at least until such time that less-developed countries produce a number of physicians in excess of their own need. We can only hope that those in charge of making manpower predictions and implementing appropriate policies are imbued with great wisdom.

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