

Do We Have Enough Physicians in Hampton Roads?



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Demographics, government policies and more expensive medical innovations likely all will increase the demand for health care in future years. Will there be sufficient numbers of physicians available to serve those who need care? Alas, our outlook is not favorable.

The Supply Of Physicians Relative To Demand: The National Picture

The Association of American Medical Colleges (AAMC) forecasts that our nation will face a shortage of 150,000 physicians in 2025. There are three reasons, says the AAMC, why insufficient numbers of doctors are being produced each year in the United States relative to anticipated future demands for medical care. First, the U.S. population is aging and more mature individuals consistently demand more medical care. Second, new health care legislation has increased the ability of citizens of all ages to demand more medical care. Third, the existing stock of physicians gradually has been aging and a spate of retirements is likely over the next two decades that will further diminish the numbers of available physicians.

The aging of physicians as a group is a phenomenon that many have ignored. Graph 1 (the American Medical Association's Chart 5.8 in its "2009 Chart Book" report) shows that the proportion of the nation's doctors age 45 or older has been growing steadily since 1980. In fact, the American Medical Association (AMA) data indicate the average age of physicians in the United States rose approximately from 41.2 to 45.9 between 1980 and 2007. These doctors must be replaced as they retire.

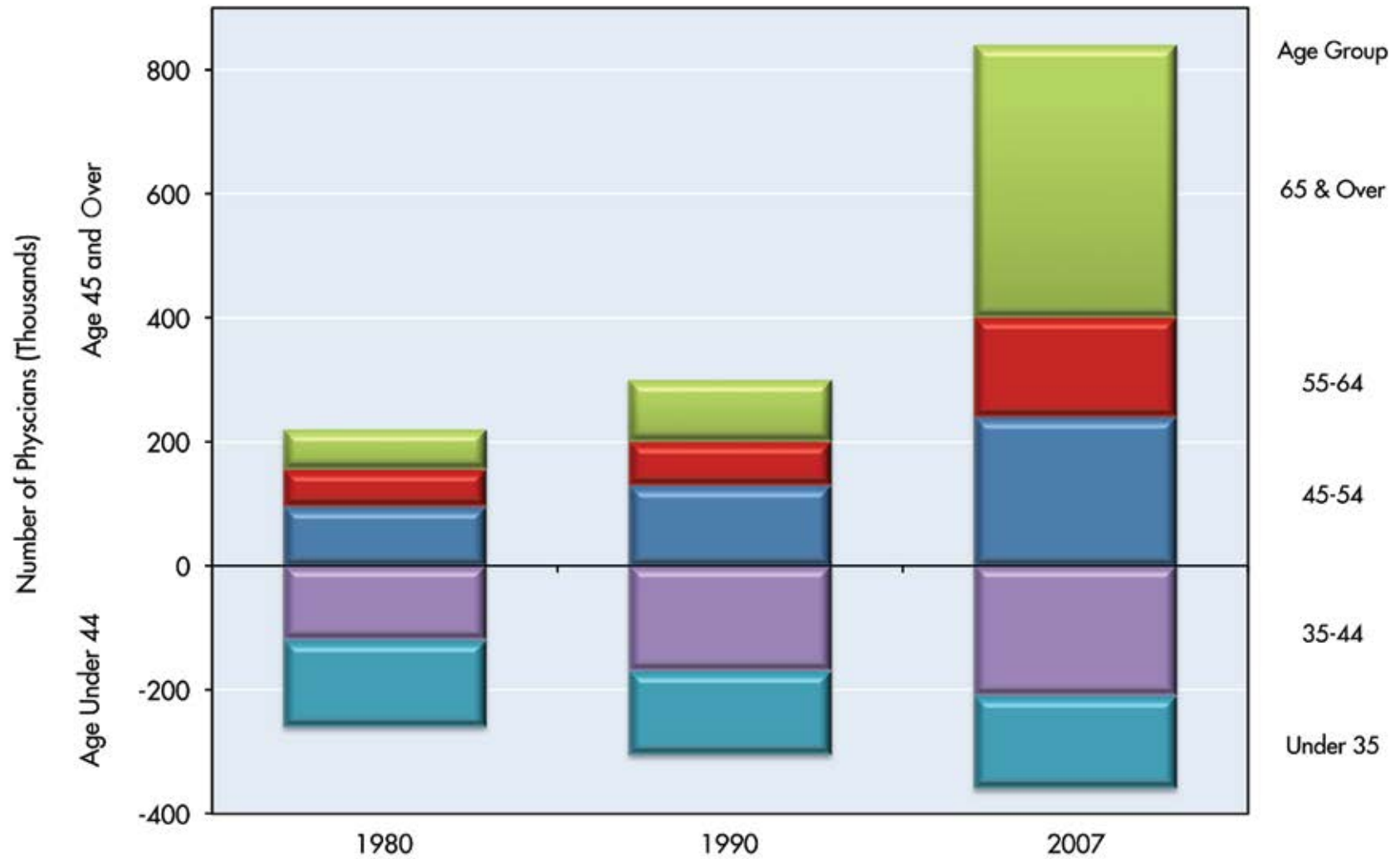
Graph 2 provides a different perspective on the age distribution of U.S. physicians. These data are derived from Table 4.6 in "Physician Characteristics and Distribution in the United States," 2011 edition, published by the AMA. **An amazing 26.1 percent of active male physicians (151,382) were 65 or older in 2010. Another 21.9 percent (127,022) were between 55 and 64 years of age.**

What about female physicians? According to the AMA, 38,102 were 65 or older and 21,618 were between 55 and 64 years of age. Taken together (men and women), 338,124 physicians, constituting 39.7 percent of all active physicians, are prime candidates for retirement or partial duties in the near future.

When they do opt to retire or cut back, there can be little doubt that this will result in painful adjustments in most health care markets.

GRAPH 1

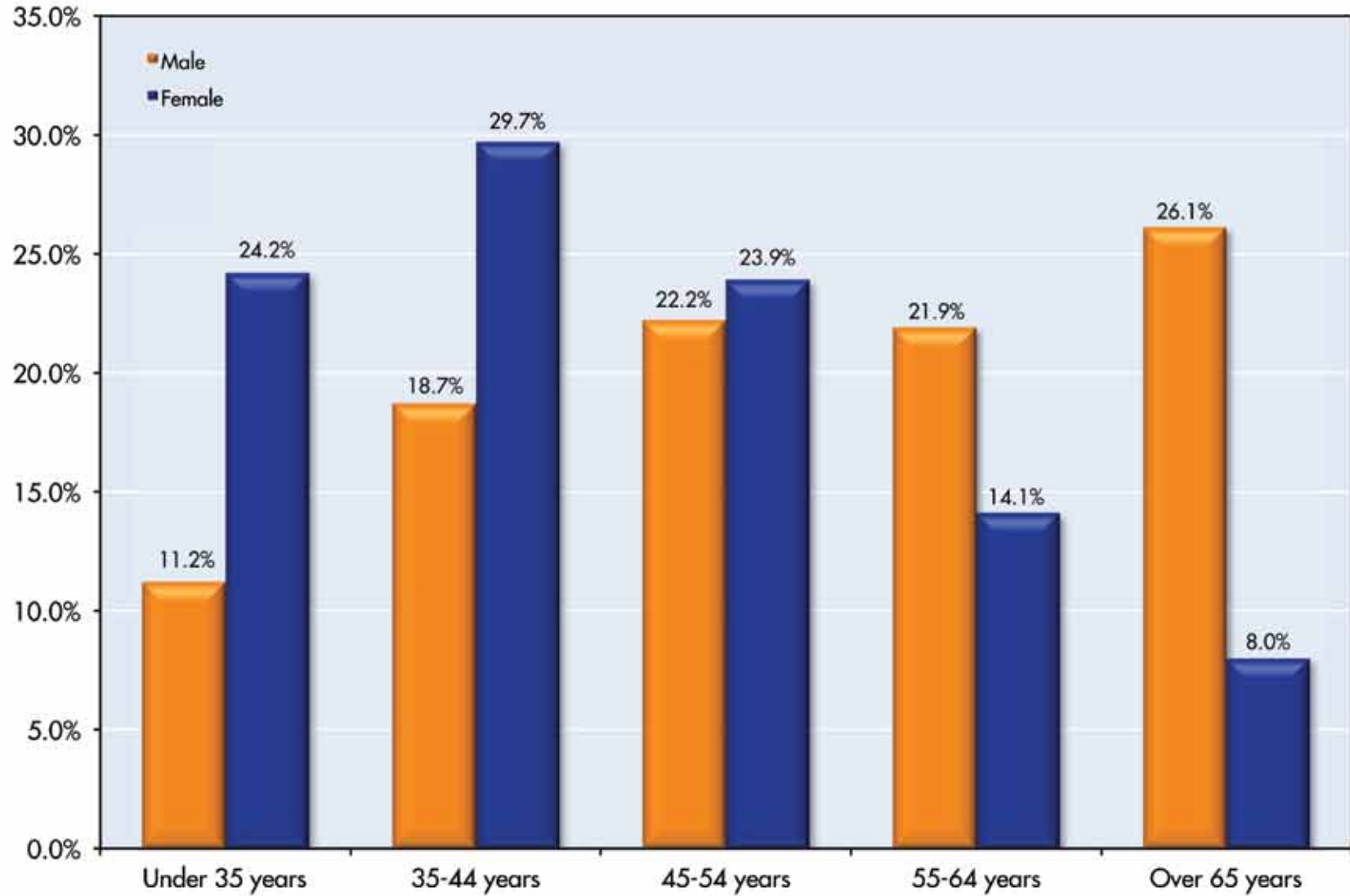
NUMBER AND AGE OF U.S. PHYSICIANS, 1980-2007



Source: American Medical Association, (2009 Chart Book), Physician Characteristics and Distribution in the U.S.

GRAPH 2

AGE DISTRIBUTION AND GENDER OF PHYSICIANS IN THE UNITED STATES, 2010



Supply/Demand Projections For Hampton Roads: Some Rough Estimates

The U.S. population is 312 million, while the population of Hampton Roads is 1.67 million. If the impact of the projected physician shortage is evenly distributed across the country (though it probably is not), then our region will experience $1.67/312$, or .0054 percent, of any problematic shortage. This translates to a shortage of 504 physicians within our region in 2025.

However, for a variety of reasons, including the existence of institutions such as Eastern Virginia Medical School (EVMS), other regional institutions of higher education and the Department of Defense, our region is more intensely populated with health personnel than the typical region in the United States. Hence, while the average number of active physicians per 1,000 people is about 2.8 in the country (from the "American Hospital Association Chart Book, 2011"), it is 3.3 per 1,000 in Hampton Roads, according to Healthcare Practitioners and Technical Occupations, Bureau of Labor Statistics, www.bls.gov. If, in 2025, the population of Hampton Roads has risen to 1,836,818 as a result of a .6325 percent annual growth rate (our actual rate of growth between 2000 and 2010), then our region will need 6,061 physicians, or 565 more than the 5,495 we have today.

However, labeling the 565 shortfall an actual shortage assumes that the number of additional physicians who come to Hampton Roads is precisely matched by the number that chooses to retire or depart. Clearly, much depends upon the rate of retirement of physicians, which was discussed previously.

Another way to assess the prospective shortage of physicians is to examine the current share of the nation's physicians that is practicing in Hampton Roads and project that forward. According to the Bureau of Labor Statistics' Healthcare Practitioners and Technical Occupations' data, www.bls.gov, there were 5,494 active physicians in Hampton Roads in 2011. They constitute .701 percent of all physicians in the United States. Thus, another rough and ready estimate

of the impact of the projected shortage of physicians on Hampton Roads is $.00701 \times 150,000 = 1,052$ physicians in 2025.

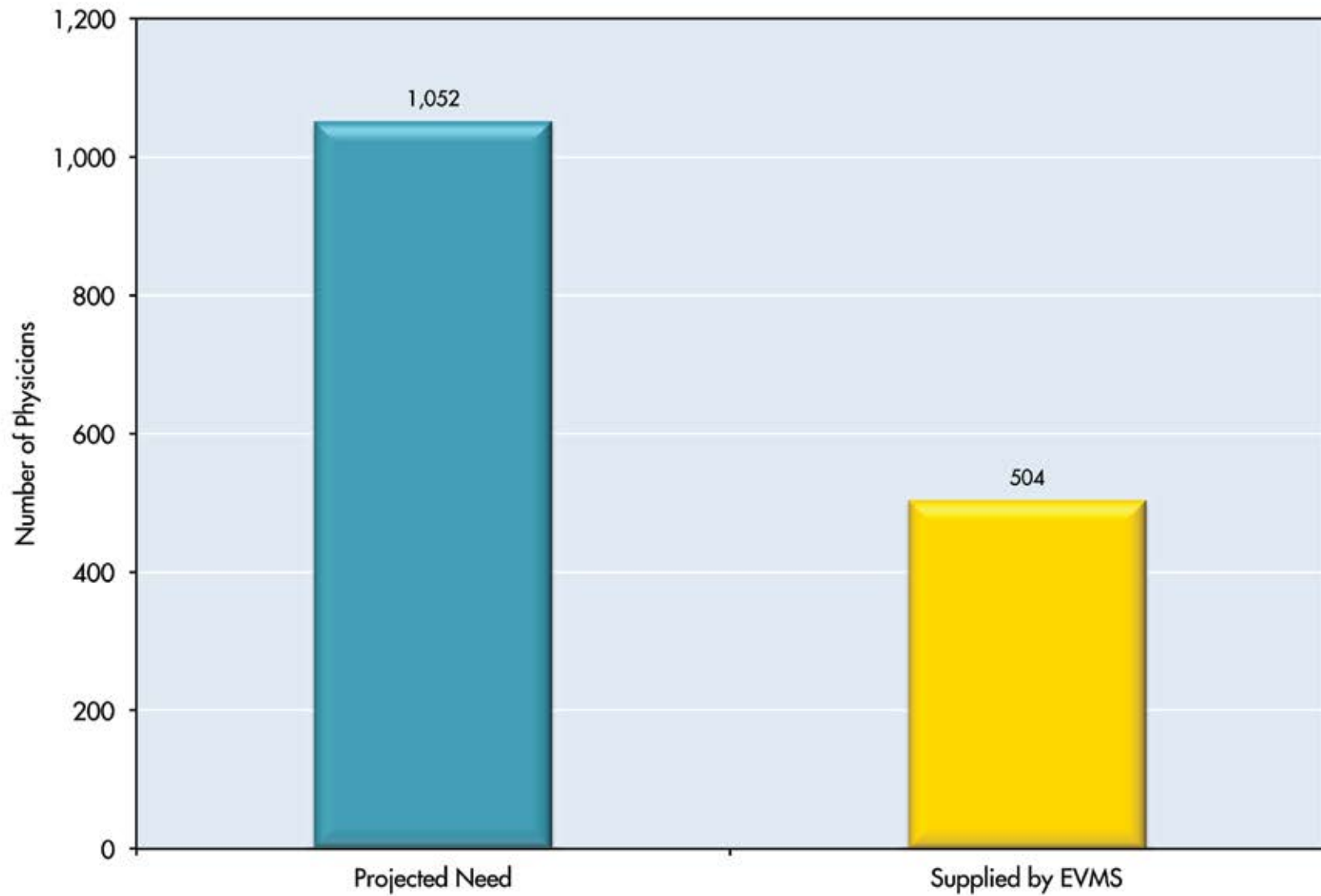
It appears, then, that Hampton Roads will require between 504 and 1,052 additional physicians in 2025, but this assumes that the current level of demand for health care by individuals will remain the same and that the number of physicians entering our region is matched precisely by the number leaving. In fact, as noted above, both of these assumptions are dubious. It seems probable that the demand for health care will increase because of the Patient Protection and Affordable Care Act and the aging of the population. Further, Graphs 1 and 2 suggest that a flood of physician retirements is on the horizon. Therefore, even 1,052 may constitute a low estimate of the region's shortage of physicians in 2025.

Nevertheless, let's assume that we will require 1,052 additional physicians in 2025. Where will these physicians come from? Clearly, EVMS, with its larger classes of medical students, will meet a healthy segment of projected needs. Currently, slightly more than 500, or approximately 10 percent of all active physicians in Hampton Roads, have earned their medical degree from EVMS. This percentage will increase significantly in the future as more mature doctors who did not graduate from EVMS retire and are replaced by new EVMS graduates.

If EVMS graduates 145 M.D.s annually and one-quarter of these graduates remain in the region (very close to the 23 percent of recent graduates that currently reside in the region), then Hampton Roads will add 36 M.D.s per year. Over a 14-year time period, EVMS would generate $14 \times 36 = 504$ additional physicians for Hampton Roads. This is highly positive, but even assuming no retirements or departures of existing physicians, this scenario would provide only about one-half of the expected additional need of 1,052 physicians in our region in 2025. Graph 3 illustrates the prospective shortage. Even the increased sizes of EVMS graduating classes will be insufficient to meet projected future needs.

GRAPH 3

PROJECTED DEMAND AND SUPPLY FOR PHYSICIANS IN HAMPTON ROADS, 2025





Realism requires that we plan for a significant number of retirements and departures from active practice by the region's physicians over the next 14 years. Nationally, 39.7 percent of all physicians are 55 or older. Let's assume the same age distribution applies to Hampton Roads and that four out of five of these doctors will have retired by 2025. **This means that 31.7 percent of the current group of physicians in the region will have retired by 2025. This equates to 1,741 physicians. If this is what the future holds for our region in terms of physician retirements and departures, then we will find ourselves in big trouble, as 1,741 retirements and departures would absolutely swamp the production of EVMS M.D.s (504) that likely would be retained in Hampton Roads through 2025.**

There are at least two other ways, in addition to EVMS, to augment the supply of physicians in Hampton Roads, or at least make the supply stretch further. The first is international medical graduates (IMGs). In the United States as a whole, 25.66 percent of all physicians are IMGs and earned their medical degree outside the United States. However, only 21.77 percent of active physicians in Virginia have earned international degrees. The percentage within Hampton Roads is unknown. Competitive forces likely will induce Virginia and Hampton Roads to utilize more IMGs. There simply will not be enough "native" M.D.s being produced by medical schools inside the United States.

It is beyond the scope of this analysis to evaluate all of the benefits and costs that would be attached to increased use of IMGs in Hampton Roads. However, the increased recruitment of international medical school graduates will not work well unless time and resources are allocated to the process. EVMS well could become a centerpiece of efforts to train IMGs. This usually involves cultural and medical orientation, education, mentorships, residencies and sometimes language instruction. Given the projected supply/demand situation for physicians, this is a task that EVMS should consider, though it is hardly one that the medical school could undertake without additional financial support.

The second way to deal with the impending shortage of physicians is to make more extensive use of nurses and physician assistants (PAs) in lieu of physicians. **Nurses and PAs can perform some of the same tasks**

as physicians, but are less expensive. Hence, straightforward economics will push medical providers in this direction.

However, greater reliance upon nurses and PAs will require that more generous compensation packages be offered them than heretofore in order to attract sufficient numbers.

There is yet another problem on the horizon – an insufficient number of available medical residencies. Even the best attempts to increase the supply of physicians will falter if recent physician graduates cannot be placed in residencies, because one cannot become a physician without doing a residency.

Nevertheless, at the same time medical school enrollments have been increasing both nationally and in Virginia because of increased class sizes and the opening of new medical schools, the number of new residencies available to serve these students has stagnated. In 2006-07, the Accrediting Council for Graduate Medical Education (ACGME) reported 106,383 medical residencies. By 2010-11, that number had grown only to 113,142, or an average of slightly less than 1.3 percent per year (ACGME, "Data Resource Book," academic years 2006-07 and 2010-11). If this slow growth rate continues, then it will be impossible to supply the projected number of new physicians needed in the future.

The residency supply problem stems primarily from financial reality. Those medical organizations hosting residencies rely heavily upon Medicare to reimburse them for the residents. In 1997, Congress imposed a cap on the funding of medical residencies. Medical organizations retain the option to pay for additional residents themselves and some do, especially where a profitable medical specialty is involved. Regardless, when a medical organization adds a medical resident that is not funded by Medicare, then the cost of doing so is passed on to those who pay the bills – patients, insurance companies and (ironically) also the U.S. government.

The Bottom Line

It's difficult to avoid the conclusion that the future supply/demand situation for physicians in Hampton Roads could be grim. Despite larger graduating classes at EVMS, it appears that the number of new physicians the region will need between now and 2025 is far greater than the number the medical school currently is scheduled to supply. This suggests a health care future that will be characterized by patients enduring long waits for appointments, health care personnel who will be stressed to care for their patients and the likelihood that our region will be unable to offer care to some populations.

In most comparable economic situations, shortages of personnel drive up wages and prices and supply and demand ultimately adjust. In this case, however, because of the Patient Protection and Affordable Care Act, this may not be an allowed outcome. Instead, we may see a combination of some people receiving delayed health care, or none at all, and some health care providers declining to serve certain patients (namely, Medicare) if they believe the reimbursements they are receiving are insufficient to cover their costs.



