The Complexities of Physician Supply and Demand: Projections Through 2025

Center for Workforce Studies
Executive Summary

Under any set of plausible assumptions, the United States is likely to face a growing shortage of physicians. Due to population growth, aging and other factors, demand will outpace supply through at least 2025. Simply educating and training more physicians will not be enough to address this shortage. Complex changes such as improving efficiency, reconfiguring the way some services are delivered and making better use of our physicians will also be needed.

In June 2006, the Association of American Medical Colleges (AAMC) recommended a 30 percent increase in U.S. medical school enrollment and an expansion of graduate medical education (GME) positions to accommodate this growth. These recommendations were based on recent studies pointing toward an impending shortage of physicians. They were also based on a recognition of factors likely to influence future physician supply and demand, such as the aging of the U.S. population and the physician workforce. The AAMC monitors the physician workforce on a regular basis to assess and update workforce projections in order to inform the medical community and policy recommendations. This is the first such report since the association’s June 2006 recommendation of a 30 percent increase in enrollment. It presents physician supply and demand projections under a variety of scenarios for the US through 2025.

Figure 1. Baseline Physician FTE Supply and Demand Projections, 2006–2025

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Under our baseline scenario, which assumes a continuation of current supply, use and demand patterns, the supply of physicians will not be able to keep pace with the projected increase in demand (Figure 1). By 2025, a shortage of 124,000 FTE physicians is projected.

However, practice and utilization patterns in the future are very unlikely to be the same as today. Therefore, the report presents projections of possible alternative scenarios. One alternative scenario makes a plausible set of assumptions about trends affecting future physician supply and demand including a continued increase in utilization rates, changes in work schedules with older physicians continuing to work more hours and younger physicians working fewer, a moderate expansion of GME capacity, and productivity improvements. Under this scenario there would be a projected shortage of 159,300 FTE physicians by 2025, or 35,000 more than the baseline shortage (Figure 2).

The projections in this report are generally consistent with projections made by the United States Department of Labor. The Bureau of Labor Statistics projects total employment of ‘physicians and surgeons’ (their occupational title) to increase 14.2 percent between 2006 and 2016. Their model assumes that supply will adjust to meet this need. The AAMC’s baseline demand projection is for a 12.8 percent increase over the same period.

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4 Projections presented throughout this report are for total, active physicians, excluding residents and fellows.  
5 FTEs, or Full Time Equivalents, represent the number of physicians if every physician worked as many hours as the average physician worked in the baseline year of 2006.  
Given these projections, assuring access to health care will require more than the expected enrollment increase in U.S. medical schools and an expansion in GME. Increasing the number of U.S. doctors is necessary, but it will not be sufficient. In the coming years, the nation will need to transform the way health care is delivered, financed and used.

**Key Findings**

- The nation is likely to experience a shortage of physicians that will grow over time.

- Though the supply of physicians is projected to increase modestly between now and 2025, the demand for physicians is projected to increase even more sharply.

- Aging of the population may drive demand sharply upward for specialties that predominantly serve the elderly (e.g., oncologists).

- The US Census Bureau projects that the US population will grow by more than 50 million (to 350 million) between 2006 and 2025. This alone will likely lead to a considerable increase in the demand for physician services.

- Growth in future demand could double if visit rates by age continue to increase at the same pace they have in recent years—with the greatest growth in utilization among those 75+ years of age.

- Universal health care coverage could add 4 percent to overall demand for physicians; this would increase the projected physician shortfall by 31,000 physicians (25 percent).

- Even a modest increase in physician productivity could do more to alleviate the projected gap between supply and demand than any other supply-side change but productivity improvements in health care have been hard to achieve as care has become more complex.

- Future demand for physicians could be significantly reduced if physician assistants and nurse practitioners play a larger role in patient care.

- Even a robust expansion of GME capacity (from 25,000 new entrants per year to 32,000) would only reduce the projected baseline shortage in 2025 by 54,000 physicians (43 percent).

**Other Considerations and Implications**

- Shortages are likely to be manifested in a number of ways, some subtle and some not. This includes longer waiting times for appointments, increased travel distances to get care, shorter visit times with physicians, expanded use of non-physicians for care and higher prices. If shortages are extensive, in some cases it will lead to a loss of access altogether.

- Any future shortages are likely to have an uneven effect, with some geographic areas, specialties and subpopulations hit harder than others resulting in hardships for both poor urban and rural communities, where access to care continues to be problematic.

- Only under the most optimistic assumptions can future physician supply and demand be expected to approach equilibrium. The confluence of developments needed to avoid a future shortage appears very unlikely.

- A 30 percent expansion in medical school enrollment and an increase in GME positions will not eliminate the projected shortage, only moderate it. Growth in the physician supply needs to be accompanied by other actions, such as a shift in how physician services are delivered, in order to overcome the projected shortage.
• There is mounting evidence of place- and specialty-specific shortages across the U.S., and physician workforce planning needs to rise to the challenge of better understanding the confluence of regional and specialty variations in supply and demand.

• Concerns with the supply of primary care physicians that many already believe to be insufficient are likely to intensify as demand outpaces supply faster for primary care than any of the specialty groups.

• If US MDs continue to select other specialties, the future of primary care practice is likely to rely increasingly on foreign medical school graduates, osteopaths and non-physician clinicians.

• The demand projections are likely a conservative estimate. All signs suggest that Baby Boomers—and most following generations—will be aggressive about seeking care that will allow them to remain active, and that they will be more likely to seek medical care than previous generations.

• Over the next several years, there are several factors that could worsen the shortage significantly. For example, if the nation does not implement significant delivery system reforms and/or improve efficiency and effectiveness, or if the nation moves rapidly towards universal health coverage, or if the flow of IMGs slows significantly, then any shortages that develop may be even more severe than those described in this report.

• Given the evidence that minority physicians are more likely to provide care for poor and underserved communities, increasing the diversity of the physician workforce should continue to be a priority of the medical education community.

• If there is one theme that emerges from this work, it is complexity. Demographics, the need for work-life balance, trends in retirement, the national debate on the uninsured, the role of primary care in the health care delivery system, training capacity at all stages of the educational pipeline, and the role of non-physicians: all of these have direct bearing on the future supply and demand for physicians and their services. And this is only the beginning. Women in the workforce, medical advances, geographic imbalance, payment systems, and tiered access also matter.

This report was designed to inform physician workforce planning. There is much work to be done to better understand the dynamics of the physician workforce—in order to better inform physician workforce planning. To that end, future efforts should:

• Continue to promote carefully considered changes in medical school capacity and the availability of GME positions as part of a broader strategy to address physician shortages;

• Promote efforts to make more effective use of the limited physician supply, such as through the use of non-physician clinicians and other health professionals, and to improve productivity;

• Recognize and respond to physician life-style concerns, i.e. promote flexible scheduling including part time work—given the large number of physicians over age 55, their decisions as to when to retire will have an enormous impact on the supply of physicians; and

• Improve data collection and workforce studies and expand collaboration among health professions organizations on data and workforce policies.

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A key aspect of the complexity inherent in the labor market for physicians lies in the length of time involved in the training and ‘production’ of physicians, which often requires individuals to make career decisions at least a decade prior to active participation. The average physician must complete four years of baccalaureate study, four years of medical (or osteopathic) school, and three to eight years of post-graduate training (residency and fellowship). For educators and policy makers, as well as potential physicians, the decision to change the physician workforce in 2020 needs to begin today.

The full report is available at http://www.aamc.org/workforce.