A Shortage Of Physicians Or A Surplus Of Assumptions?

As the nation's supply of health care workers rose, so did the numbers of underserved citizens. U.S. workforce policy must address this imbalance.

by Jonathan P. Weiner

People's interest in physician workforce planning has been cyclical. During the 1960s and 1970s a looming doctor shortage was feared. In response, federal and state intervention led to a doubling of training programs; by the 1980s, in the classic American tradition of "policy overshoot," many believed that an oversupply was imminent.

During the 1990s the main workforce topic on the table was whether Medicare should continue its several-billion-dollar annual outlay in support of residency training. To help address this issue, Congress commissioned the Council on Graduate Medical Education (COGME), which reported that by the year 2000 the expected staffing ratio of one physician for every 370 Americans was more than adequate and the nation would do well to greatly scale back its residency programs and shift training away from specialists and toward primary care. In general, most major medical organizations such as the American Medical Association, the Association of American Medical Colleges, and the Association of Academic Health Centers supported this premise.

Some analysts (including Richard Cooper) believed that the position adopted by the mainstream organizations was not tenable and that there would be no abundance of physicians. Other analysts, including me, felt that the training infrastructure had in fact over-shot its mark and that the nation could be adequately served with even fewer providers.

The health care workforce policy arena has been quiescent for a number of years. During the 1990s undergraduate medical training was neither cut nor expanded much. But this production plateau should not be confused with a steady state; during the past decade the growth rate of the physician labor force was more than double that of the U.S. population.

While U.S. medical schools adhered to a "nonproliferation treaty" of sorts, other training institutions did not do likewise. The supply of nurse practitioners (NPs) grew more than 200 percent during the 1990s, physician assistants (PAs) by 97 percent, and doctors of osteopathy (DOs) by 65 percent. Furthermore, the growth rate of practicing medical doctors (MDs) trained abroad grew at twice the rate of U.S.-trained MDs (45 percent versus 21 percent). In 2002 it can be estimated that more than half of all clinicians entering the market for "physician services" will not be U.S.-trained MDs.

Interest in physician supply adequacy has recently resurfaced. Maybe this is because 2000—the mystical target year for past forecasting efforts—has come and gone. Maybe it is because there is growing discomfort among some groups that U.S. medical schools are falling behind in the training race. And recently there have been reports—a few scientific, many anecdotal—that shortages exist for some specialties in some geographic areas.

Viewed from within this recent historical context, the paper by Cooper and colleagues...
can be considered the first round of a renewed debate. The main premise of their piece is that demand for physician services will increase greatly as our nation’s health sector and overall economy expand in size. Whether this is due to the hand of Adam Smith, government planners, or coincidence, the paper documents that during the 1929–2000 period U.S. physician supply and gross domestic product (GDP) did track each other closely. The bottom line of their forecast is that they predict that the United States will have a “shortfall of substantial magnitude” (equivalent to about 200,000 physicians) by the year 2020.

The current supply stands at approximately one physician per 350 patients, or one clinician per 240 when NPs and PAs are factored in. The authors suggest that in the year 2020, when Americans are richer and older and when providers are less productive, the population will require approximately one physician for every 275 persons, or about one clinician per 175. Many will (and should) assess the face validity of these unprecedented staffing ratios, but as is the case for any forecasting effort, it is more appropriate to question assumptions rather than predictions. Once assumptions are made, either actively or tacitly, results are sealed. Thus, to accept this paper’s conclusions, one must embrace the series of assumptions it embodies.

One important assumption that the authors make is that as consumers’ demand increases, physicians’ ability to meet this demand will fall. The phenomenon of waning productivity should be the subject of future research, but caution must be exercised before so greatly downgrading the production value of each clinician. This assumption is fraught with circularity; productivity, like the overall workforce adequacy issue itself, is a Procrustean bed. Across settings and jurisdictions, one can find wildly varying levels of provider work effort. There are many reasons for this, including the potential effects of supply-side–induced competition.

At the core of Cooper and colleagues’ forecasting model is the assumption that U.S. GDP and the health sector within it will grow unabated over the next twenty years and that this will (and should) translate directly into an increased demand for physicians. While the United States is a wealthy nation where a large amount of “disposable” income is spent on medical care, this economic trend-line approach to forecasting is difficult to support on both technical and theoretical grounds.

Historically and geographically, the linkage between GDP and physician supply is not quite as absolute as their Exhibit 1 would suggest. For example, the number of U.S. physicians per capita was much higher in 1900 than in 1929 (the year they chose to commence their analysis), yet GDP in 1900 was lower. Exceptions also can be found globally. There are many nations with far higher rates of doctors per capita (for example, Spain, Italy, Greece, Belgium, and Cuba) and much lower GDPs and health care spending rates.

One can also argue that future supply-and-demand relationships will not track those that were evident in the past; might an asymptote be reached due to market saturation? However, rather than asking whether this relationship could hold, one might more appropriately ask, should it? Are past trends the proper standard for the future?

Should society subsidize the training of 200,000 new physicians and then maintain them in practice? Is this the best use of new health-sector dollars? U.S. taxpayers now contribute more than $500,000 to train each MD. Moreover, an active U.S. doctor typically generates at least that much in annual health care spending. If the real goal is to improve the population’s health, there are many other ways to use such massive resource infusions. For example, the uninsured could be
covered many times over with these sums. And there is much evidence that the current U.S. workforce can readily be used to meet patients' needs and demands far more efficiently than in the authors' 2020 scenario.

The future may be uncertain, but there are firm lessons from the past. Along many important dimensions, the track record of U.S. workforce policy has not been stellar. As per capita provider supply more than doubled, the number of Americans (particularly in rural or inner-city areas) experiencing serious access to care problems has not decreased. The financial and cultural barriers to the receipt of medical care have probably never been greater. Clearly, for a very large cohort of Americans, a larger health care workforce has hardly been synonymous with a better one. Does it make sense to expand the personnel base further before these issues are resolved?

A medical workforce out of balance, in either direction, can have a considerable negative impact on society. By presenting a forecasting framework that lends support to one position, Cooper and colleagues will attract much-needed attention to this deserving policy issue. Regardless of whether or not one agrees with their assumptions, let us thank them for this service. Let the debate resume, but this time we must expand the discourse beyond medical school deans and workforce planners. The issue is far too important to do otherwise.

NOTES
4. While medical school positions during the 1990s remained fairly stable (though at greater than replacement levels), residency positions did increase during the early part of the decade. International medical graduates filled most of the added slots.
8. Shipman et al., "Revisiting Healthcare Workforce Policy."