FutureDocs: Nation has Enough Physicians to Meet the Nation's Overall Needs – For Now. Distribution to Worsen

Emily K. Tierney, Thomas C. Ricketts, Andy Knapton, Erin P. Fraher

As the US healthcare system grapples with uncertainty over the future of the *Affordable Care Act*, the demand for health care services will continue to grow. Debate continues over whether there is an adequate supply of physicians to meet the current demand for healthcare services, and how the balance of demand and supply may change in the future due to new payment and care delivery models. The Association of American Medical Colleges (AAMC) forecasts a shortage of 40,800 to 104,900 physicians by 2030[1], while a 2014 Institute of Medicine (IOM) report on the physician workforce and graduate medical education (GME) finds no shortage, but a maldistribution of physicians both geographically and by specialty[2]. A *New York Times* article emphasized that geographic distribution may be the more important challenge, suggesting that better deployment of nurse practitioners (NPs) and physician assistants (PAs) and use of new technology could increase efficiency, freeing up physicians to see more patients[3]. This *Brief* uses data from the FutureDocs Forecasting Tool (FDFT) to assess whether the supply and distribution of physicians in the United States will be sufficient to meet the future demand for healthcare services.
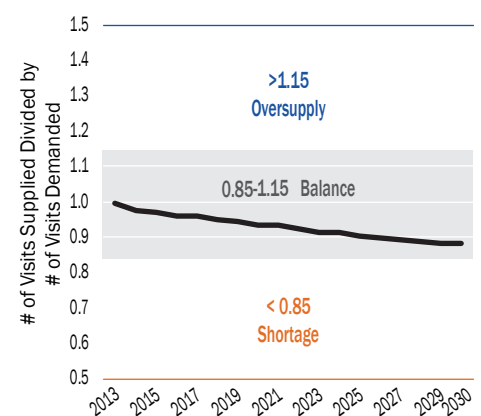
FutureDocs Forecasting Tool

The Cecil G. Sheps Center for Health Services Research at The University of North Carolina-Chapel Hill (UNC-CH) and the Physicians Foundation developed an innovative tool to help policy makers, physicians and health systems plan for what type of practitioners will be needed to meet the growing utilization of healthcare in the United States. The FutureDocs Forecasting Tool is an interactive, user-friendly, web-based model that estimates the supply of physicians, use of physician services, and capacity of the physician workforce to meet future use of health services at the sub-state, state and national levels from 2013 to 2030. The tool provides much needed evidence to guide healthcare workforce policy by providing customizable scenarios and visualizations.

National estimates of physician capacity

The FDFT shows a near balance between supply and demand in 2017 with physicians able to meet about 96% of visits demanded. However, **Figure 1** shows the model forecasts a widening gap between the number of visits physicians will be able to provide and the number of visits that will be demanded. The ratio of full time equivalent patient care physicians is about 15 per 10,000 people in 2017 and is projected to remain stable at that level through 2030. Yet, a growing and aging population will increase demand over time so that by 2030 the nation will need 4,000 more visits per 10,000 people than the physician workforce can accommodate, or a supply of physicians equal to 88% of what is needed. These projections assume no significant change in care delivery and payment models and no change in the deployment or practice of NPs and PAs. A later brief in this series will illustrate how the balance of supply and demand is projected to change under different scenarios about the numbers and types of services NPs and PAs will provide in the future.

Figure 1. Balance of Physician FTE Supply to Needed Visit Volume for the US, 2013-2030

Adequacy of physician supply varies by geography

The FutureDocs Forecasting Tool identifies significant imbalances in supply and demand. **Figure 2** shows estimates of shortage or excess supply of medical visits per 10,000 population in 2017 by Tertiary Service Areas[4] (TSAs). Many TSAs have slightly more demand for visits than supply of practitioners - a shortage (lighter colors) - while those in the darkest colors have more capacity than the population is likely to need. The middle range colors indicate a rough balance between the two. In general, urban areas tend to be in surplus or balance, while shortages exist in some rural areas.

The model is also able to simulate the effect that different policy scenarios will have on the balance of supply and demand. One scenario models an expansion of 3,000 PGY1 positions each year for five years beginning in 2015 to states and specialties most in need[5]. **Figure 3** shows the impact such a policy would have on Mississippi, a state with a projected shortage of physicians. When the GME slots are added, Mississippi sees its unmet need halved between 2017 and 2030.

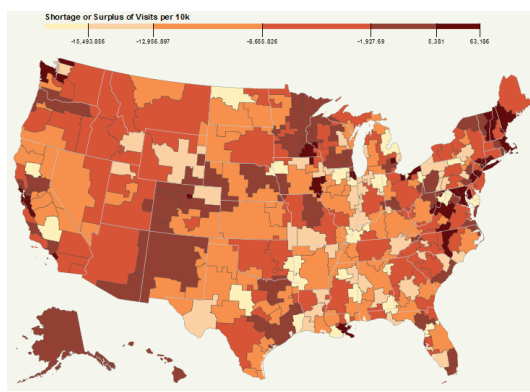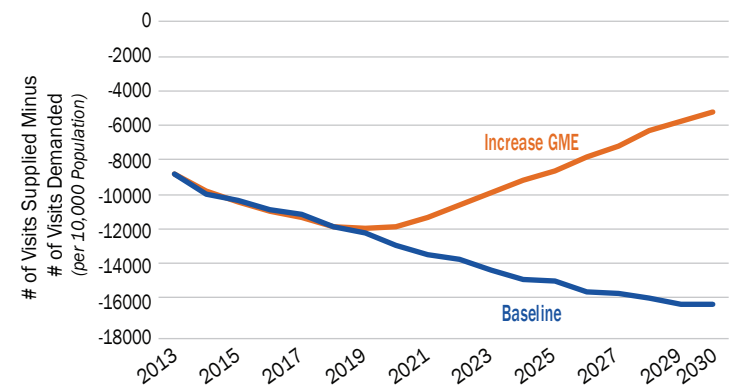**Figure 2.** Estimates of Shortage or Surplus of Visits per 10,000 Population, 2017

Figure 3. Gap Between Visit Demand and Physician Supply, Mississippi, 2013-2030

Policy Implications

The FutureDocs Forecasting Tool forecasts that currently there is near balance between physician supply and demand, but some areas face significant shortfalls. The gap between physician capacity and population demand will increase significantly over the next 15 years. There are several policy levers that can aid in distributing physicians to areas of shortage and preventing areas of excess surplus. Physicians tend to stay and practice in the area in which they train. Therefore, policies that increase funding for GME to states with shortages can help those states attract and retain more physicians.

References

[1] IHS Markit. The Complexities of Physician Supply and Demand 2017 Update: Projections from 2015 to 2030. Prepared for the Association of American Medical Colleges. Washington, DC. February 2017. https://aamc-black.global.ssl.fastly.net/production/media/filer_public/a5/c3/a5c3d565-14ec-48fb-974b-99fafaeecb00/aamc_projections_update_2017.pdf

[2] IOM (Institute of Medicine). 2014. Graduate medical education that meets the nation's health needs. Washington, DC: The National Academies Press. https://www.nap.edu/read/18754/chapter/1

[3] Carrol AE. A Doctor Shortage? Let's Take a Closer Look. *New York Times*. November 7, 2016, https://www.nytimes.com/2016/11/08/upshot/a-doctor-shortage-lets-take-a-closer-look.html?_r=0

[4] Tertiary Services Areas (TSAs) are multi-county areas that approximate medical markets. For more information, see https://www2.shepscenter.unc.edu/workforce/about.php.

[5] Fraher E, Knapton A, Holmes GM. A Methodology for Using Workforce Data to Decide Which Specialties and States to Target for Graduate Medical Education E xpansion. *Health Services Research*. 2017;52(S1):508-528.