Health Workforce Policy Brief

April 2016

UNC THE CECIL G. SHEPS CENTER FOR HEALTH SERVICES RESEARCH

Carolina Health Workforce Research Center
http://www.healthworkforce.unc.edu

A Methodology for Using Workforce Data to Decide which Specialties and States to Target for GME Expansion

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Background: Congressional proposals to expand Graduate Medical Education have set a goal of funding 3,000 new PGY1 slots for five years for a total of 15,000 new residency positions. Proposed legislation has suggested that the Workforce Commission (which was never funded), HRSA, and GAO provide input on how new GME positions would be distributed among specialties and states. Currently, these entities do not have a methodology to translate data from workforce projection models into actionable information that could be used to determine how new GME positions should be allocated by state and by specialty. The purpose of this project was to outline such a methodology and use a case example to illustrate how the methodology could be applied.

Methods: We used workforce projection data from the FutureDocs Forecasting Tool (FDFT)[1] but any robust workforce model could be used. The FDFT estimates the: 1. demand for health care services (visits) for 19 types of health care services in inpatient, outpatient and emergency room settings; 2. supply of physicians in 35 specialties; and 3. capacity of physician supply to meet health care services use from 2013-2030. To determine which specialties could meet the demand for shortage visits we used a "plasticity" matrix that maps specialties to specific healthcare services. We allocated the proposed new 3,000 PGY1 slots each year for 5 years to states and specialties facing the most significant shortages until all 15,000 new GME positions were allocated. The goal of this analysis was not to evaluate whether the proposed expansion is appropriate but to outline a methodology for how workforce data could be used to allocate new GME positions by state and specialty to address population health needs.

Findings: *Allocating the 3,000 new PGY1 slots*
Once we determined the headcount needed in each specialty in each state to meet demand for visits in 2026, we then calculated how much of this excess demand could be met by

Conclusions and Policy Implications

1) This analysis proposes an objective, evidence-based methodology for allocating GME positions that could be used as the starting point for discussions about GME expansion.

2) The methodology, based on data from a workforce projection model, uses a case example to show how the proposed 3,000 new PGY1 GME slots should be allocated by specialty and state to meet population health needs.

3) The methodology allocates a large absolute number of positions to states that have the worst health outcomes and high demand for health care—Mississippi, Alabama and Arkansas (United Health Foundation 2016). Western states with relatively few GME positions relative to population size—Idaho, Wyoming, Montana, Alaska and Nevada—gained a large percentage increase in positions and states with aging populations (Florida) and large, growing populations (California and Texas) received a large number of new positions.

[1] https://www2.shepscenter.unc.edu/workforce/

expanding GME by 3,000 PGY1 slots per year for 5 years. To do this, we filled from the "bottom up", meaning that we targeted new GME positions to the states and types of health services facing the most significant shortages until all 15,000 new positions had been allocated. At the end of this process, 77.4% of demand for visits in 2026 across all types of health care services in all states was met. In other words, in the states facing the most significant shortages of physicians, expanding GME by 3,000 PGY1 slots for five years brought physician supply up to a level that met 77.4% of demand while states that were already meeting demand above 77.4% did not receive any new positions.

A large absolute number of positions were allocated to states that have the worst health outcomes and high demand for health care—Mississippi, Alabama and Arkansas[1]. Western states with relatively few GME positions relative to population size—Idaho, Wyoming, Montana, Alaska and Nevada—gained a large percentage increase in positions and states with aging populations (Florida) and large, growing populations (California and Texas) received a large number of new positions. The model's methodology of filling from the "bottom up" meant that five northeastern states (Connecticut, Delaware, New Hampshire, Rhode Island and Vermont) and the District of Colombia received no GME slots because they were already well supplied. In 17 states, the pre/post expansion ranking of the total number of GME positions per 10K population did not change and those states that were initially ranked between 18 and 29 remained relatively unaffected by the expansion. In general, states in the lower range were better off after the expansion, including Georgia, Indiana and Oklahoma whose rankings rose considerably after the expansion.

The methodology produced some unexpected findings. No new positions were allocated to allergy/immunology or to Maine, Hawaii, New Mexico or North Dakota. A relatively large number of positions were allocated to Iowa. These findings are not intuitive and underscore a reason why workforce data should be advisory, not definitive in discussions about GME expansions. Expert panels of stakeholders need to be assembled to interpret the data in the context of specialty-specific issues such as the model's attempt to expand infectious disease positions to fix the specialty's anemic GME pipeline. Advisory panel members would also need to have a deep understanding of residency training in the states under discussion to deliberate about whether a state has the capacity to expand training in the specialties suggested by the data. If a state has few or no residency programs in a needed specialty, they may not be able to develop a quality training program. Another consideration is whether positions if opened in a particular specialty or state, would fill.

Conclusion/Policy Implications: This analysis has proposed an objective, evidence-based methodology for allocating GME positions that could be used as the starting point for discussions about GME expansion or redistribution. With the increased focus nationally and across states on better aligning GME training with population health needs, there is a need to convene workforce stakeholders—physicians, training programs, policy makers, hospitals and others to use data, in concert with expert judgment, to target publicly funded GME to where it is most needed. In the absence of workforce data, we risk continued imbalance in the distribution of GME toward states that have a comparative advantage in Medicare funding and substantial residency training capacity[2]. Incremental efforts to redistribute GME toward needed geographies and specialties have proven ineffectual (Chen et al. 2013) and the current "hands off" approach has not produced the workforce needed to meet the nation's health care needs. The methodology proposed in this paper provides a way forward in making better use of workforce data to guide regional, state and national investments in our future physician workforce.

End notes:

1. United Health Foundation. 2016. "America's Health Rankings - State Information" [accessed on February 29, 2016]. Available at: http://www.americashealthrankings.org/states
2. Mullan, F., C. Chen, and E. Steinmetz. 2013. "The Geography of Graduate Medical Education: Imbalances Signal Need for New Distribution Policies." *Health affairs* (Project Hope) 32 (11): 1914-21.
3. Chen, C., I. Xierali, K. Piwnica-Worms, and R. Phillips. 2013. "The redistribution of graduate medical education positions in 2005 failed to boost primary care or rural training." *Health Affairs* (Project Hope) 32 (1): 102-10.

This work is funded through HRSA Cooperative Agreement U881HP26495: Health Workforce Research Centers Program.