

## **GAPS IN THE AMERICAN SUPPLY OF MEDICAL PROVIDERS: PHYSICIANS, ADVANCE PRACTICE NURSES AND PHYSICIAN ASSISTANTS**

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### **ABSTRACT**

**Background:** Based on the goals of US health care reform, the demand for health care will continue to expand. As physician shortages widen, advance practice nurses (APNs) and physician assistants (PAs) are playing larger roles. Together with physicians, they constitute a workforce of “advanced clinicians.” We undertook an analysis to assess the capacity of this combined workforce to meet the future demand for clinical services.

**Study Design:** Projections were constructed to the year 2025 for the supply of physicians, APNs and PAs, and these were compared with projections of the demand for advanced clinical services. Supply projections were based on the anticipated growth in trainees and trends in attrition in each discipline. Separate estimates were made for primary care and specialty medicine. Demand was calculated from federal estimates of future spending and historic relationships between spending and the health care labor force.

**Results:** If training programs for APNs and PAs grow as currently projected but physician residency programs are not expanded, the aggregate per capita supply of advanced clinicians will remain close to its current level, which will be 20% less than the demand in 2025. Increasing the numbers of entry-level (PGY-1) residents by 500 annually will narrow the gap, but it will remain at levels greater than 15%.

If, in association with an increase in postgraduate trainees of 500 annually, 33% of graduating residents entered office-based primary care, primary care supply will be sustained at or above

historic per capita norms despite overall shortages, while specialist supply would decline. A 50%-50% mix would accentuate these divergent trends, leading to profound shortages of specialists. A mix of 25% in primary care and 75% in specialty residencies will sustain primary care capacity near its historic levels while minimizing the projected shortages of specialists.

**Conclusions:** The nation faces a substantial shortfall in its combined supply of physicians, PAs and APNs, even under aggressive training scenarios, and deeper shortages if these scenarios are not achieved. Efforts must be made to expand the output of clinicians in all three disciplines, while also enhancing the infrastructure of clinical practice and facilitating the delegation of tasks to a broadened spectrum of caregivers in new models of care.