



Physician assistant supply and demand

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Will we need more physician assistants in the health care workforce of the future? Once again, perceptions have shifted as past predictions have proven to be wrong. While only a few years ago, health workforce policy expert panels confidently predicted a surplus of physicians, conventional wisdom now anticipates a future where the supply of medical care providers will be insufficient to meet demand. This circumstance presents some interesting options for the PA profession.

Physician supply and demand

The physician supply debate is now turning in the direction of a perceived shortage based on new theories about what drives demand for medical care services.¹ Acceptance of these theories has led the Council on Graduate Medical Education (COGME), to predict that if current trends continue, demand for physicians will significantly outweigh supply by 2020. COGME recommends that medical schools expand the number of graduates by 3,000 per year by 2015.²

This prediction is striking not only because of the apparent magnitude of the expected shortage, but also because the prediction reverses numerous earlier reports that the country would be facing a surplus of practicing physicians. COGME estimates that there will be roughly 970,000 practicing physicians in 2020 and that the country will need at least 30,000 new doctors to raise the 2020 figure to 1 million. The Association of American Medical Colleges concurs, stating that “the preponderance of current evidence suggests that the United States is headed toward an aggregate shortage of physicians.”³

To date, discussions have centered primarily on the need to train more physicians. In the past, however, PAs and similar clinicians were seen as a part of the workforce solution. Historically, a shortage of physicians was a major rationale for the creation and utilization

of PAs. If we do indeed need more physicians, does this mean that we also need more PAs?

The increased demand for services

What is behind the theory that medical care services will be in increased demand, and why has it gained such rapid and widespread acceptance? The leading theorist in the field is Cooper,^{4,5} who asserts that demand for medical services is driven by four major trends operating in the health sector: economic expansion, population growth, the changing work effort of physicians, and services provided by nonphysician clinicians. Cooper’s assertions are specifically tied to economic growth in the US health sector: As the US economy grows, so too will the demand for health care services. As the affluent baby boomer generation ages, they will demand, and be able to pay for, a greater amount of medical care services. As a consequence, more health care providers will be needed.

Experts including Cooper believe that the combination of a robust economy and a graying population ensures that the demand for medical care services will increase considerably over the next decade. Moreover, experts are concerned that medical schools will be slow in responding to this perceived increase in demand, and that little money is now available to subsidize the expansion of medical education.

Not all experts accept the notion that there will be a physician shortage in the future. Jonathan Weiner of Johns Hopkins is skeptical and asserts that there is underappreciated capacity within the US health system to increase service delivery if it is indeed needed.^{6,7} He uses data from large prepaid group practices (PGPs) at Kaiser Permanente and other HMOs to show that these PGPs have a physician-to-population ratio that is 22% to 37% below the national rate. The rate of specialist growth and utilization in these systems suggests “that efficient systems of care can readily meet the demands of patient populations with workforce staffing ratios below current US levels.”⁷

Blumenthal seems to accept most of Cooper’s assertions but notes that long-term (greater than 5 to 10 years) predictions in the health workforce policy field

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have a history of inaccuracy. Blumenthal argues that periodic short-term (every 3 to 5 years) reviews of the adequacy of the physician supply, "taking into account the supply of all health professionals, physician and non-physician," may be a more reliable method of assessing provider supply and demand.¹ His mention of the contributions made by nonphysicians to medical services is important in recognizing that these providers reduce to some degree the need for additional physicians.

Commenting on Blumenthal's paper, AAPA Executive Vice President Steve Crane makes the key point that most past and current discussions of the possible need for increased medical care services have tended to see the issue in terms of numbers, particularly the numbers of physicians that "experts" think will be needed to meet anticipated demand. Crane reminds policy makers that "it is time to move beyond the physician as the principle unit of analysis in workforce studies. The more appropriate unit of measure should be the medical services needed or not needed to meet patient requirements."⁸

The supply of physician assistants

Assuming that predictions of an increased demand for medical services in the future are accurate, what are the implications for the PA profession? A logical option appears to be to consider increasing the supply of PAs.

The PA profession has seen two periods of expansion, most recently when the annual output of PA graduates went from approximately 2,000 in 1995 to more than 4,500 by 2003. The increase in PAs has not outpaced marketplace demand,⁹ and the demand for PAs remains strong. PA education has been relatively stable in the past several years, with 137 educational programs and approximately 4,700 annual graduates.¹⁰

If demand for medical care services grows, and if the demand for PAs increases, in what areas would expanded utilization be likely? One segment where increasing utilization is already apparent is in the inpatient hospital sector. After the number of hours per week that physician residents can work was restricted in 2003, many teaching hospitals restructured the staffing of inpatient units. The ability of PAs and physician residents to perform similar tasks and activities with equivalent outcomes has been known for some time. And now evidence suggests that the utilization of PAs in the inpatient hospital setting is increasing. According to the 2004 AAPA census, 37% of all clinically active PAs are working in hospital settings (including emergency departments), with 35.4% of respondents indicating that they manage care for inpatients, 9% indicating that they work on inpatient services, and 6.3% identifying themselves as hospitalists.¹¹

In a recent survey of 21 pediatric residency program directors in hospitals in New York state, half indicated that they hired "nonresident" staff, defined as three to

five nurse practitioners or physician assistants, as a way to meet patient service demands.¹² Another report documents the benefits of PA utilization in resident-substitute roles in a 5-year experience where PAs were employed as house staff in a pediatric intensive care unit in a major New York City-area teaching hospital.¹³

There has been steady and sustained growth in the numbers of nonphysician health care providers in the United States, including PAs.¹⁴ In 2005, the AAPA estimates that there are approximately 58,000 clinically active PAs.¹¹ The annual output of PA graduates is now roughly 4,700 per year. If we project modest increases in the number of new graduates per year and adjust for attrition and productivity, by 2010 there will be an estimated 76,700 PAs in clinical practice.

Whether that number will be sufficient to meet anticipated demand is difficult to determine. Trends examined in this editorial are consistent with that optimistic forecast, and the US Department of Labor says that the demand for PAs will increase significantly by 2012.¹⁵ In view of the likely increasing demand for medical care services, it may be time for the PA profession to expand the number of graduates. The increased demand for services represents an opportunity to increase PA status in the workforce as well as to enhance the profession's contribution to health service delivery to the nation. □

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REFERENCES

- Blumenthal D. New steam from an old cauldron—the physician-supply debate. *N Engl J Med*. 2004;350:1780-1787.
- Council on Graduate Medical Education. Minutes of meeting, July 28-29, 2004. Available at: http://www.cogme.gov/minutes07_04.htm. Accessed July 8, 2005.
- Association of American Medical Colleges. The physician workforce: position statement. Available at: <http://www.aamc.org/workforce/12704workforce.pdf>. Accessed July 8, 2005.
- Cooper RA, Getzen TE, McKee HJ, Laud P. Economic and demographic trends signal an impending physician shortage. *Health Aff (Millwood)*. 2002;21(1):140-154.
- Cooper RA, Getzen TE, Laud P. Economic expansion is a major determinant of physician supply and utilization. *Health Serv Res*. 2003;38(2):675-696.
- Weiner JP. A shortage of physicians or a surplus of assumptions? *Health Aff (Millwood)*. 2002;21(1):160-162.
- Weiner JP. Prepaid group practice staffing and US physician supply: lessons for workforce policy. *Health Aff (Millwood)*. Web exclusive. February 4, 2004. Available at: <http://www.healthaffairs.org/>. Accessed July 8, 2005.
- Crane SC. The physician-supply debate [letter]. *N Engl J Med*. 2004;351:934-935.
- Cawley JF, Jones PE. The possibility of an impending health professions glut. *JAAPA*. 1997;10(9):80-92.
- Simon AF, Link M. *The Twentieth Annual Report on Physician Assistant Educational Programs in the United States*. Alexandria, Va: Association of Physician Assistant Programs; 2005.
- American Academy of Physician Assistants. 2004 AAPA physician assistant census report. Available at: <http://www.aapa.org/research/04census-intro.html>. Accessed July 8, 2005.
- Samuels RC, Chi GW, Rauch DA, et al. Lessons from pediatrics residency program directors' experience with work hour limitations in New York State. *Acad Med*. 2005;80(5):467-472.
- Mathur M, Rampersad A, Howard K, Goldman GM. Physician assistants as physician extenders in the pediatric intensive care unit setting—a 5-year experience. *Pediatr Crit Care Med*. 2005;6(1):14-19.
- Hooker RS, Berlin LE. Trends in the supply of physician assistants and nurse practitioners in the United States. *Health Aff (Millwood)*. 2002;21(5):174-181.
- US Department of Labor, Bureau of Labor Statistics. *Occupational Outlook Handbook*. Physician assistants. Available at: <http://bls.gov/oco/ocos081.htm#outlook>. Accessed July 8, 2005.