

HEALTH POLICY

Health Care Reform and the Primary Care Workforce Bottleneck

Mark D. Schwartz, MD

Division of General Internal Medicine, New York University School of Medicine, VA New York Harbor Healthcare System, New York, NY, USA.

To establish and sustain the high-performing health care system envisioned in the Affordable Care Act (ACA), current provisions in the law to strengthen the primary care workforce must be funded, implemented, and tested. However, the United States is heading towards a severe primary care workforce bottleneck due to ballooning demand and vanishing supply. Demand will be fueled by the “silver tsunami” of 80 million Americans retiring over the next 20 years and the expanded insurance coverage for 32 million Americans in the ACA. The primary care workforce is declining because of decreased production and accelerated attrition. To mitigate the looming primary care bottleneck, even bolder policies will be needed to attract, train, and sustain a sufficient number of primary care professionals. General internists must continue their vital leadership in this effort.

KEY WORDS: primary care; workforce; health reform; health policy.

J Gen Intern Med 27(4):469–72

DOI: 10.1007/s11606-011-1921-4

© Society of General Internal Medicine 2011

If the United States (US) does not fundamentally strengthen its primary care workforce it will not achieve the dramatically enhanced access, improved quality, and cost containment envisioned by the Affordable Care Act (ACA).¹ While the ACA is at risk from efforts to repeal or defund it, and from challenges to its constitutionality, a more insidious threat awaits it when coverage expansion begins in 2014. The US will face a serious healthcare workforce bottleneck, a severe shortage of primary care providers due to mounting patient demand and diminishing supply. In this paper I highlight factors contributing to this bottleneck and propose policies needed to address the challenge.

Healthcare systems based on a robust primary care workforce produce better health care quality and outcomes at lower costs than systems with a less adequate primary care supply.^{2,3} For each incremental primary care physician per 10,000 population (a 12.6% increase over average supply in 2000), there were 49 fewer deaths per 100,000 persons per year (a 5.3% decrease).⁴ This association suggests that more than 120,000 deaths per year could be averted through a modest increase in the number of primary care physicians. Further, patients with a regular primary care physician have lower overall health care costs than those without one.^{5,6}

Even without the ACA, primary care workload is expected to increase by 29% between 2005 and 2025.⁷ In 2011, the first of 80 million baby boomers became Medicare-eligible. This “silver tsunami” will continue at a rate of 10,000 per day through 2029.⁸ Pent-up demand for primary care services among uninsured or underinsured adults leads to increased utilization when this population reaches 65 years old and becomes Medicare eligible.⁹ Further fueling demand, the ACA will provide a pathway to health insurance for up to 32 million currently uninsured Americans by 2019.¹⁰ In California, it is estimated that meeting the increased primary care demand from newly eligible Medicaid patients alone will require a 10% increase in the state’s primary care workforce.¹¹

Meanwhile, the primary care workforce is shrinking. Only 32% of all 800,000 US physicians practice primary care.¹² The number of US medical students matching into primary care residency positions declined 24% between 1985 and 2011, and the proportion of internal medicine (IM) residents practicing general internal medicine after residency dropped from 54% in 1999 to 20% in 2003.^{13,14} Fewer than 18% of current graduating medical students are expected to ultimately practice primary care.¹² A third of generalist physicians will leave medical practice over the next decade as baby boomer physicians retire, and as generalists leave practice at a faster rate than specialists.^{15,16} The effective workforce is further depleted by the rise in part-time work.¹⁷ As a result, by 2016 the number of adult primary care physicians leaving practice will exceed the number entering.¹⁸

Three years into health reform in Massachusetts, primary care physicians are in critically short supply. With 54% of family physicians and 49% of internists not accepting new patients, wait times for new patients are lengthening, and a majority of primary care practices are having trouble filling physician vacancies.¹⁹

Therefore, the primary care shortage is likely to be a significant bottleneck to full and successful ACA implementation, frustrating millions of Americans with the unfulfilled promise of access despite coverage. While the ACA makes many essential investments in the 3P’s of primary care policy (pipeline, practice, and payment reforms), funding and implementation of these commitments remain vulnerable.²⁰ Full realization of all ACA policies is necessary but insufficient. To rebuild the generalist physician workforce and avert a bottleneck, bolder policies will be required.

PIPELINE (PUSH) POLICIES

Graduate Medical Education (GME)

One quarter of practicing physicians in the US are graduates of international medical schools (IMGs). In 2011, 40% of all

Received May 14, 2011

Revised September 20, 2011

Accepted September 26, 2011

Published online November 1, 2011

primary care residency positions were filled by IMGs, who disproportionately practice in underserved areas.²¹ In 2005 and 2006, 57% of IMGs practiced in primary care specialties, compared with 46% of US medical graduates.²² In primary care shortage areas the difference was even greater - 68% of IMGs versus 40% of US graduates. Outcomes for patients cared for by IMGs are as good as or better than those for patients cared for by US graduates.²³ Between 2002 and 2014, the number of US medical school graduates will increase by almost 7,000 (36%) to 26,500 due to 20 new schools and expanded class sizes.²⁴ By 2015 these new US graduates will be sufficient to replace all IMGs in the residency match, but it is unlikely that they will fill the gap left by IMGs in primary care specialties and in underserved communities.

Medicare provided \$9.5 billion to approximately 1,100 teaching hospitals in 2009 to subsidize the cost of GME, with \$3 billion in Direct GME subsidizing residency program costs, and \$6.5 billion in indirect medical education (IME) added to Medicare case payments to teaching hospitals. The Medicare Payment Advisory Commission (MedPAC) has consistently found that Medicare is paying double the IME amount empirically justified by comparing the cost of care in teaching hospitals with that in non-teaching hospitals.²⁵ Teaching hospitals counter that IME funding offsets the costs of specialized units (e.g. trauma and burn centers) and uncompensated care. MedPAC recommends that Congress redirect the “extra” estimated \$3.5 billion towards incentive payments to teaching institutions that achieve desired educational outcomes. This “pay for educational performance” program would increase the accountability of GME programs and better align them with US physician workforce needs.

Policy options to increase the percentage of physician trainees practicing primary care from 18% to 40% include: a) increasing the direct GME per resident amount (PRA) for trainees in primary care programs and decreasing the PRA for all other residents; b) providing bonus payments to hospitals for graduating residents that practice primary care after training; c) expanding loan repayment programs for residents that practice primary care; d) increasing salaries of primary care residents; and e) raising the cap for funded GME positions by 3,000 positions annually for 5 years, allocating at least 80% of these new slots for primary care training programs.

Teaching hospitals should consider seeking funds from the CMS' Center for Medicare and Medicaid Innovations (CMMI) by proposing innovative GME models designed to enhance training of primary care residents. Although workforce policy is not an explicit area of focus at CMMI, there is considerable interest across federal agencies to promote innovative models of GME to address the primary care shortage.²⁶

Non-Physician Practitioners (NPPs: Physician Assistants—PAs and Nurse Practitioners—NPs)

NPPs are the fastest growing segment of the primary care workforce. Over the last decade, the number of NPs grew to 140,000, an average annual per capita increase of 9%, compared to an increase of PAs to 75,000, a 4% increase, and of primary care physicians to 256,000, a 1% increase.^{27,28} NPPs are more likely than primary care physicians to practice in underserved areas and to care for minority patients, Medicaid beneficiaries,

and uninsured patients.²⁹ Although a majority of NPPs practice in primary care settings, an increasing percentage are choosing hospital-based and subspecialty practice.³⁰ Even including NPPs, the ratio of primary care practitioners to population is expected to fall by 9% from 2005 to 2020.³¹

Given the impending primary care bottleneck, we need all hands on deck to expand patient access.³² However, while physicians and NPPs should increasingly partner to provide team-based care in patient-centered medical homes, models that *replace* physicians with NPPs need further testing before they are generalized.³³ A systematic review found comparable quality of care by physicians and NPs, but outcomes were not adjusted for the additional time NPs spent with patients.³⁴ A Cochrane review concluded that appropriately-trained nurses provide comparable quality of care as primary care physicians. However, only one study was powered to assess equivalence of care, many studies had methodological limitations, and patient follow-up was generally 1 year or less.³⁵ Outcomes of collaborative and independent models of care need to be studied.

PRACTICE/PAYMENT (PULL) POLICIES

In his classic study of influences on medical student career choices, Funkenstein concluded that economic incentives and prevalent ideology are more compelling for most students than their personal characteristics and original career plans.³⁶ His contention, which is just as true today, was that the market's impact is pervasive and that students will trade in their generalist aspirations for the economic security of higher-paying fields. Economic concerns trickle down to students from faculty and residents, which further shapes student career choice.³⁷

Without achieving greater salary equity between cognitive and procedural services, current pipeline (“push”) policies are likely to fall short without stronger practice and payment (“pull”) policies. The 10% Medicare bonus for primary care services from 2010 through 2015 in the ACA is helpful but unlikely to send an adequate market signal to students and trainees. By 2008, median income for generalist physicians was 54% of that for specialty physicians. This compares to almost 65% in the early 1990s when the growth of managed care and the relative value resource-based system, which initially diminished the compensation gap between generalists and specialists, signaled the need for more generalists and fewer subspecialists.^{38–40} Not coincidentally, the proportion of medical students choosing primary care residencies rose from 38% in 1988 to 50% by 1998. Since then, however, the compensation gap has re-expanded as median income for specialists rose 37.5% compared with 21.4% for generalists—an increase that did not keep pace with inflation.⁴¹ In 2010 COGME called for an increase in the ratio of generalist to specialty physician income to 70% in order to achieve the desired specialty mix of physicians.¹²

Each year, the Center for Medicare and Medicaid Services (CMS) updates the RBRVS by adjusting the relative value units (RVUs) for existing services and determining the RVUs for new services. Since 1991, CMS has relied upon the American Medical Association's Relative Value Scale Update Committee (RUC) to determine RVUs for physician services, accepting over

90% of the RUC's recommendations.⁴² Although primary care physicians provide more than half of all Medicare and Medicaid visits, only 3 of the 26 voting members of the RUC are generalist physicians. The RUC's proceedings are private, using secret ballots and confidentiality agreements that shield their deliberations from public review.⁴³

Primary care physicians will need to advocate for policies to address the growing imbalance in compensation between cognitive and procedural services. The ACA strengthens CMS' authority to adjust Medicare RVUs that are found to be misvalued, with a particular focus on services that have experienced high growth rates. Rep. Jim McDermott (D-WA), a senior member of the House Ways and Means Committee and a physician, recently introduced the Medicare Physician Transparency and Assessment Act of 2011 (H.R. 1256). The legislation would require independent analysts to review misvalued codes annually. This outside review could provide representativeness and objectivity currently lacking in the RUC process.

In summary, to establish and sustain the high-performing health care system envisioned in the ACA, the law's provisions to strengthen primary care training and practice must be funded, implemented, and evaluated. However, to mitigate the risk of the looming primary care bottleneck, even bolder policies are needed to attract, train, and sustain our students and residents in primary care careers. Excellent resources are available for clinicians seeking to enhance their knowledge and ability as effective health policy advocates.⁴⁴⁻⁴⁶ Generalist physicians must continue their vital leadership and advocacy in this pursuit.

Acknowledgement: Dr. Schwartz gratefully acknowledges the funding from the Robert Wood Johnson Foundation (#66316) during the preparation of this paper.

Conflict of Interest: None disclosed.

Corresponding Author: Mark D. Schwartz, MD; Division of General Internal Medicine, New York University School of Medicine, VA New York Harbor Healthcare System, 423 E. 23rd Street, Suite 15N, New York, NY 10010, USA (e-mail: Mark.schwartz3@va.gov).

REFERENCES

1. Patient Protection and Affordable Care Act. Pub L No. 111-148;2010.
2. **Starfield B, Shi L, Macinko J.** Contribution of primary care to health systems and health. *Milbank Q.* 2005;83(3):457-502.
3. **Baicker K, Chandra A.** Medicare spending - the physician workforce, and beneficiaries' quality of care. *Health Affairs* 2004; Web exclusive. Accessed September 27, 2011 at <http://content.healthaffairs.org/content/early/2004/04/07/hlthaff.w4.184.full.pdf+html>
4. **Macinko J, Starfield B, Shi L.** Quantifying the health benefits of primary care physician supply in the United States. *Int J Health Services.* 2007;37:111-128.
5. **Weiss LJ, Blustein J.** Faithful patients: the effect of long-term physician-patient relationships on the costs and use of health care by older Americans. *Am J Public Health.* 1996;86(12):1742-1747.
6. **Kronman AC, Ash AS, Freund KM, Hanchate A, Emanuel EJ.** Can primary care visits reduce hospital utilization among Medicare beneficiaries at the end of life? *J Gen Intern Med.* 2008;23(9):1330-1335.
7. **Colwill JM, Cultice JM, Kruse RL.** Will generalist physician supply meet demands of an increasing and aging population? *Health Aff (Millwood).* 2008;27(3):232-241.
8. **Social Security News Release.** Nation's first baby boomer files for Social Security retirement benefits, October 15, 2007. Accessed September 27, 2011 at <http://www.ssa.gov/pressoffice/pr/babyboomerfiles-pr.htm>.
9. **Chen LW, Zhang W, Adidam PT, Pol L, Mueller K, Shea D.** The pent-up demand for health care of the uninsured near elderly when they are approaching age 65. *AcademyHealth Meeting* 2004; 21: Abstract no. 952.
10. **Hadley J, Holahan J, Coughlin T, Miller D.** Covering the uninsured in 2008: current costs, sources of payment, and incremental costs. *Health Aff (Millwood).* 2008;27:w399-w415.
11. **Bindman AB, Schneider AG.** Catching a wave - implementing health care reform in California. *N Engl J Med.* 2011;364:1487-1489.
12. Council on Graduate Medical Education (COGME) twentieth report to Congress: advancing primary care (2010). Accessed September 27, 2011 at: <http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/twentiethreport.pdf>.
13. **Garibaldi RA, Popkave C, Bylsma W.** Career plans for trainees in internal medicine residency programs. *Acad Med.* 2005;80(5):507-512.
14. National Residency Matching Program. Accessed September 27, 2011 at: <http://www.nrmp.org/data/resultsanddata2011.pdf>.
15. **Lipner RS, Bylsma WH, Arnold GK, Fortna GS, Tooker J, Cassel CK.** Who is maintaining certification in internal medicine—and why? A national survey 10 years after initial certification. *Ann Intern Med.* 2006;144:29-36.
16. **Sox HC.** Leaving (internal) medicine. *Ann Intern Med.* 2006;144:57-58.
17. **Staiger DO, Auerbach DI, Buerhaus PI.** Trends in the work hours of physicians in the United States. *JAMA.* 2010;303(8):747-753.
18. **Salsberg E.** Health care reform: implications for the supply, demand and use of physicians. AAMC Center for Workforce Studies; 2010
19. **Howell J, Sum A.** Annual physician workforce study: 2010. Waltham: Massachusetts Medical Society; 2011. Accessed September 27, 2011 at: <http://www.massmed.org/workforce>.
20. **Abrams MK, Nuzum R, Mike S, Lawlor G.** Realizing health reform's potential: how the Affordable Care Act will strengthen primary care and benefit patients, providers, and payers the commonwealth IFund issue brief, January 2011. Accessed September 27, 2011 at <http://www.commonwealthfund.org/Content/Publications/Issue-Briefs/2011/Jan/Strengthen-Primary-Care.aspx>.
21. **McMahon.** Coming to America - international medical graduates in the United States. *NEJM.* 2004;350(24):2435-2437.
22. **Hing E, Lin S.** Role of international medical graduates providing office-based medical care: United States, 2005-2006. NCHS data brief. No. 13. Hyattsville: National Center for Health Statistics; 2009 (Accessed September 27, 2011 at <http://www.cdc.gov/nchs/data/databriefs/db13.pdf>).
23. **Norcini J, Boulet J, Dauphinee W, Opalek A, Krantz I, Anderson S.** Evaluating the quality of care provided by graduates of international medical schools. *Health Aff.* 2010;29(8):1461-1468.
24. **Whitcomb ME.** New medical schools in the United States. *N Engl J Med.* 2010;362:1255-1258.
25. **Report to the Congress:** Aligning incentives in Medicare. Medicare Payment Advisory Commission, June 2010. Chapter 4, Washington, DC. Accessed September 27, 2011 at: http://www.medpac.gov/documents/Jun10_EntireReport.pdf.
26. **Huang E.** Office of the Assistant Secretary of Health for Planning and Evaluation (ASPE), Department of Health and Human Services, Washington. Personal communication: DC; 2011.
27. **GAO Report - Primary care professionals: recent supply trends, projections, and valuation of services.** 2008. Accessed September 27, 2011 at: <http://www.gao.gov/new.items/d08472t.pdf>.
28. American Academy of Nurse Practitioners, frequently asked questions. Accessed September 27, 2011 at: <http://www.aanp.org/NR/rdonlyres/A1D9B4BD-AC5E-45BF-9EB0-DEFCA1123204/4710/2011FAQswhatisanNPupdated.pdf>.
29. **Grumbach K, et al.** Who is caring for the underserved? A comparison of primary care physicians and nonphysician clinicians in California and Washington. *Annals of Family Medicine,* July/August 2003.
30. **2009-10 AANP National NP Sample Survey:** An overview, American Academy of Nurse Practitioners, August 2010. Accessed September 27, 2011 at: http://www.aanp.org/NR/rdonlyres/0952E2EF-CE8F-4B26-AC00-19041F1B8E59/0/OnlineReport_Genera2.pdf.
31. **Bodenheimer T, Chen E, Bennett HD.** Confronting the growing burden of chronic disease: can the U.S. health care workforce do the job? *Health Aff.* 2009;28(1):64-74.
32. Consensus Report. The future of nursing: leading change, advancing health. Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing, at the Institute of Medicine. October 5, 2010. Accessed September 27, 2011 at: <http://www.iom.edu/Reports/2010/The-future-of-nursing-leading-change-advancing-health.aspx>.

33. **Paradise J, Dark C, Bitler N.** Improving access to adult primary care in Medicaid: exploring the potential role of nurse practitioners and physician assistants. Kaiser Family Foundation, Issue Paper, March 2011. Accessed September 27, 2011 at: <http://www.kff.org/medicaid/upload/8167.pdf>.
34. **Horrocks S, Anderson E, Salisbury C.** Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. *BMJ*. 2002;324:819–823.
35. **Laurant M, et al.** Substitution of doctors by nurses in primary care (Review). *Cochrane Database of Systematic Reviews* 2004, Issue 4.
36. **Funkenstein DH.** Medical students, medical schools, and society during five eras. Cambridge, MA: Ballinger Publishing Company; 1978.
37. **Schwartz MD, Basco WT, Grey MR, Elmore JG, Rubenstein A.** Rekindling student interest in generalist careers. *Ann Intern Med*. 2005;142:715–724.
38. **Medical Group Management Association.** (2009). Data from physician compensation and production survey. Accessed September 27, 2011 at: <http://www.mgma.com/WorkArea/DownloadAsset.aspx?id=29312>.
39. **Weiner JP.** Forecasting the effects of health care reform on US physician workforce requirements: evidence from HMO staffing patterns. *JAMA*. 1994;272:222–230.
40. **Hsiao WC, Braun P, Yntema D, Becker ER.** Estimating physicians' work for a resource-based relative-value scale. *N Engl J Med*. 1988;319:835–841.
41. **Bodenheimer T, Berenson RA, Rudolf P.** The primary care-specialty income gap: why it matters. *Ann Intern Med*. 2007;146:301–306.
42. **American Medical Association RVS Update Committee (RUC).** AMA/Specialty Society: RVS Update Process. Accessed September 27, 2011 at: <http://www.ama-assn.org/ama1/pub/upload/mm/380/ruc-update-booklet.pdf>.
43. **Goodson J.** Unintended consequences of resource-based relative value scale reimbursement. *JAMA*. 2007;298(19):2308–2310.
44. **Sessums S, Moran B, Rich E, Dennis L, Liebow M, eds.** Health care advocacy: a guide for busy clinicians. New York: Springer; 2011.
45. **McDonough JE.** Inside national health reform, 1st edn. University of California Press; 2011.
46. **Bodenheimer TS, Grumbach K.** Understanding health policy: a clinical approach. (Lange Clinical Medicine) McGraw-Hill Medical; 5th edition, 2008.