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HEALTH CARE 2009

Easing the Shortage in Adult Primary Care — Is It All about Money?

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As Americans debate health care reform, it is easy to forget that success may depend as much on the availability of primary care physicians for adults as on the specifics of the reforms themselves. Access to health insurance does not ensure access to timely medical care, particularly in places where doctors are in short supply, are not accepting new patients, or are not accepting patients with some types of insurance. Effective primary care can improve the quality of care and health outcomes and save money. But to the extent that easing the shortage of primary care physicians will require additional funds, the initial costs of reform will increase.

Primary care physicians include family medicine doctors, internists, pediatricians, and in some instances, obstetrician-gynecologists; of course, not all such physicians practice primary care. Currently, primary care accounts for about one third of the physician workforce, but far fewer U.S. medical students are interested in careers in adult primary care than were a decade ago.¹ The percentages of U.S. medical students entering residencies in family medicine and internal medicine have declined substantially (see graph). In 2009,

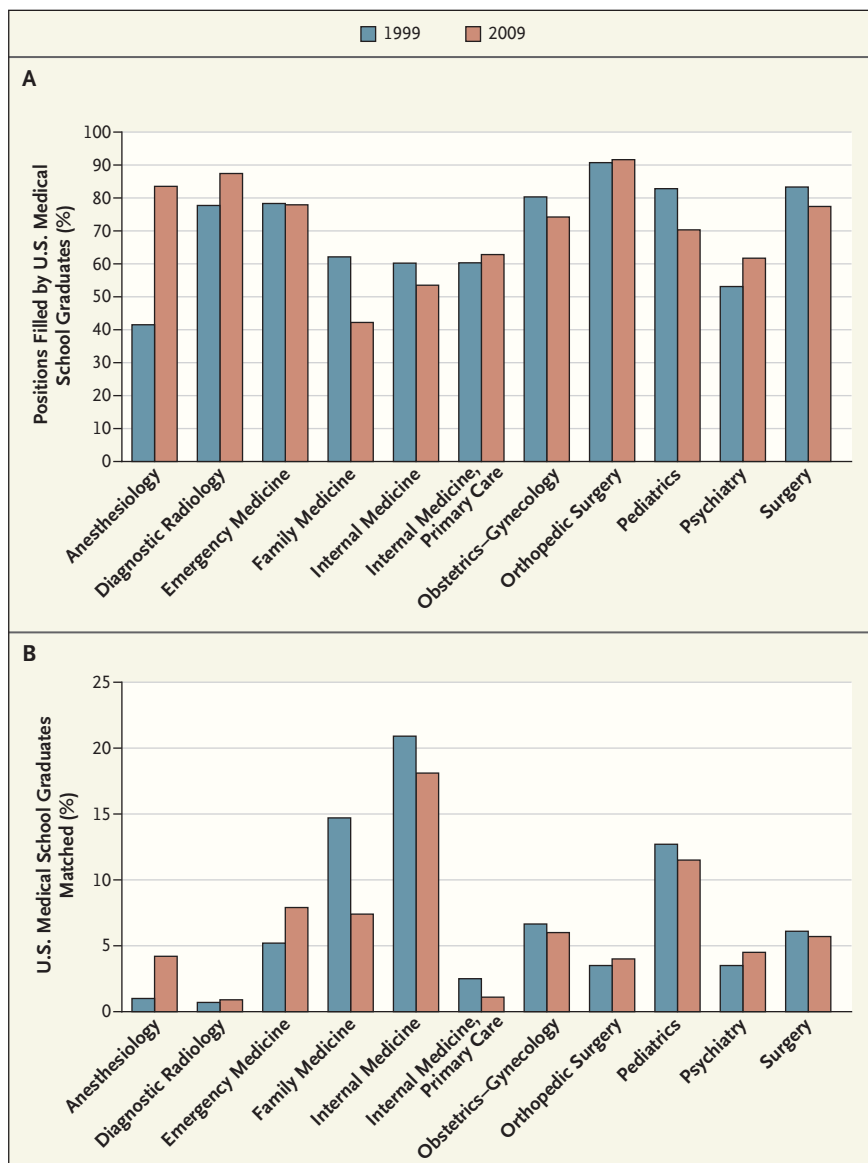
only 247 residency positions were offered in primary care internal medicine, a decrease of 328 from 1999. Although the percentages of U.S. students entering residencies in obstetrics-gynecology and pediatrics have also declined, those decreases have been more modest. The overall number of pediatricians has increased substantially, and the proportion of pediatric residents entering primary care pediatrics has remained relatively constant.²

As interest in adult primary care has decreased, more students have entered anesthesiology, radiology, and other specialties. As compared with graduates who become office-based generalists, those who become specialists, hospitalists, or emergency medicine physicians can often expect to have greater control over their lives, a wider variety of professional experiences, sufficient funds in the short term to pay off student debt, and higher incomes over the long term. Over a 35-to-40-year career, the difference in income results in a \$3.5 million gap, on average, between the “return on investment” for primary care physicians and that for subspecialists.¹ Of course, primary care physicians are well compensated relative to most Americans — but typical incomes for

radiologists and orthopedic surgeons, two high-paying specialties, approach three times those in primary care. “Concierge practices,” which typically collect premiums from well-to-do patients, allow some primary care doctors to avoid the hassles of routine practice but make their services unavailable — and unaffordable — to most people.

The diminished interest in primary care among U.S. medical students has led to an increased dependence on international medical graduates (IMGs). In 2005 and 2006, about one quarter of all visits to office-based physicians in the United States were to IMGs.³ Some 57.0% of IMGs were in primary care specialties, as compared with 46.2% of U.S. medical graduates; outside metropolitan areas, 67.8% of IMGs — and only 39.8% of U.S. graduates — practiced in areas with primary care shortages.³ In 2009, IMGs filled about two fifths of first-year residency positions that could produce primary care physicians.

What can be done to alleviate the adult primary care shortage and increase the percentage of such doctors who are trained in the United States? The way in which primary care practices are organized and collaborations among doctors, nurse practition-



Percentages of U.S. Medical School Graduates Filling Postgraduate Year (PGY) 1 Positions in Various Specialties (Panel A) and Percentages Matched to Residencies in These Specialties (Panel B), 1999 and 2009.

In anesthesiology and diagnostic radiology, many residencies begin with PGY-2 positions. In 2009, U.S. medical graduates filled 612 PGY-1 positions and 498 PGY-2 positions in anesthesiology, as compared with 137 and 289 positions, respectively, in 1999. In 2009, U.S. medical graduates filled 132 PGY-1 positions and 816 PGY-2 positions in diagnostic radiology, as compared with 101 and 552 positions, respectively, in 1999. Some residencies in emergency medicine also begin with PGY-2 positions (data not shown). Data are from the National Resident Matching Program.

ers, and physicians' assistants will be key determinants of the number of physicians needed, their professional experiences, and their job satisfaction. However, merely increasing the num-

bers of medical schools, medical students, or residency positions that could produce primary care physicians will have limited effects if U.S. medical students continue to shun such careers.

In the near term, with or without health care reform, the United States will continue to rely disproportionately on IMGs to provide primary care. In the long term, augmenting the incomes of primary care physicians, increasing the proportion who accept patients regardless of their type of insurance, implementing new payment models, and reducing or eliminating income disparities between specialists and generalists will probably be essential, as will expanded government support for primary care training through Medicare, Title VII of the Public Health Service Act, and related programs. Revitalizing and expanding the National Health Service Corps (NHSC) is also important. Physicians in the NHSC loan-repayment program are about 7 times as likely as others to choose a primary care career, and students who avoid debt by receiving NHSC scholarships are about 4.5 times as likely as others to enter primary care.¹ All physicians in the corps practice primary care; patients who need specialists are referred to the nearest qualified hospital or clinic. Although the NHSC requires a commitment to practice in an underserved area for a limited number of years, participation may lead to a sustained commitment to primary care.¹ Unfortunately, the program shrank under the Bush administration: in fiscal year 2008, there were sufficient funds for only 76 new scholarship awards (49 to medical students) and 867 new loan-repayment awards (223 to physicians).

The relationship between medical student debt and career choice is complex, and studies have had conflicting results. Whereas some students have sufficient means

Percentages of 2008 Graduates of Selected Medical Schools Entering Residencies in Primary Care Fields.*

School	No. of Students in Graduating Class	Percentage of Students Entering Residencies that Produce Primary Care Physicians
Harvard University	174	37
Michigan State University	98	41
Oregon Health and Science University	103	44
University of California—Los Angeles	149	42
University of California—San Francisco	149	42
University of Colorado—Denver	132	42
University of Iowa (Carver)	136	26
University of Massachusetts—Worcester	102	57
University of Michigan—Ann Arbor	169	27
University of Minnesota	208	45
University of North Carolina	165	46
University of Pennsylvania	141	40
University of Rochester	91	44
University of Vermont	81	42
University of Washington	169	52
University of Wisconsin—Madison	135	39

* In 2009, *U.S. News and World Report* ranked these 16 medical schools (listed here in alphabetical order) highest with regard to their primary care programs. Data on the number of graduates are from the Association of American Medical Colleges. Data on the percentage of students entering residencies in family medicine, internal medicine (including primary care programs), and pediatrics are from the schools; not all will eventually practice primary care.

to graduate without debt, the risk of accumulating a large debt probably deters some undergraduates, particularly students from low-income families, from even applying to medical school. Although avoiding or promptly repaying debt is more important for some than for others, tuition decreases, scholarships, and loan-repayment programs can promote primary care careers.

Money is not the only consideration, however. Medical career choice involves many factors.¹ For example, students who grew up in rural areas and those with a demonstrated interest in caring for underserved groups are more likely than others to practice primary care. And students

at public medical schools are more likely to choose primary care careers than those at private schools, as are students in rural as opposed to urban schools. Training in rural locations is an important factor in students' choice to practice in such locations. Women are more likely than men to choose primary care but less likely to practice in rural areas. Positive experiences with primary care during medical school, such as in clerkships, encourage students to pursue primary care: those with favorable impressions of internists' patients, practice environment, and lifestyle are more likely to become internists.⁴ Such findings can inform policy — for example, by

focusing attention on which students are admitted to medical school (and expanding opportunities for applicants from less-affluent families) and on the quality of experiences with primary care during training (including opportunities to work in locations with physician shortages).⁵

Of course, students notice when teaching hospitals invest in facilities for lucrative specialties but not for primary care. During specialty rotations, students may observe well-managed offices with spacious modern facilities, in contrast to crowded older primary care clinics with harried physicians.¹ Such discrepancies make it more difficult for faculty to facilitate primary care careers through teaching and mentoring. The national trends notwithstanding, at some (mostly public) medical schools, high percentages of students still enter residencies in family medicine, internal medicine, or pediatrics (see table). These schools' experiences could inform approaches elsewhere.

Targeted federal programs may not solve the overall problem of access to care: they affect a relatively small number of the estimated 730,000 physicians caring for patients in the United States. But they could make an immediate difference. The American Recovery and Reinvestment Act includes \$300 million (for this year and next) for expanding the NHSC to improve access to care in medically underserved areas. In early June, Kathleen Sebelius, the Secretary of Health and Human Services, announced the availability of nearly \$200 million from the act to support student loan repayments for clinicians who work at NHSC sites. Recipients would be given \$50,000 in loan repayments in addition to

their salary and would serve for 2 years with the corps. In addition, the fiscal year 2010 budget includes \$169 million for the NHSC — an increase of \$34 million from fiscal year 2009 — for recruitment and retention of primary care physicians, as well as dentists and other health care professionals. As a result, the NHSC's "field strength" is projected to more than double, from an estimated 3665 members in fiscal year 2008 to 8108 members in fiscal year 2010. In recent years, the percentage of the corps who are physicians has ranged from 42 to 50%.

Congress could adopt addi-

tional measures that might have an early impact, either as part of a health care reform bill or in separate legislation (see the Perspective article in this issue of the *Journal* by Bodenheimer et al., pages 2693–2696). Although the shortage of primary care physicians for adults will require the training of additional physicians and other long-term solutions, health care reform may be judged by how well it works from day 1.

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CMS's Landmark Decision on CT Colonography — Examining the Relevant Data

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In an unprecedented endorsement of evidence-based medicine, the Centers for Medicare and Medicaid Services (CMS) recently decided to deny coverage of computed tomographic (CT) colonography for cancer screening, concluding that "the evidence is inadequate."¹ The CMS emphasized that the "pivotal, overarching concern" in its decision was the fact that the findings of trials showing a benefit of screening with this method were not necessarily generalizable from the study populations to other groups of patients. In particular, the CMS noted that the mean age of participants in the studies that were cited in support of coverage was significantly lower than that of Medicare beneficiaries. There were no studies evaluating this technology in the elderly, nor were there

analyses of subgroups of participants over 65 years of age.

Does the CMS's strict application of evidence-based analysis herald a shift in its approach to national coverage decisions? We hope so.

Although it may seem obvious that a new therapy should be shown to benefit patients in the Medicare population before taxpayers pay for it, in practice such proof has often not been required. In 2007, we surveyed 141 clinical trials that the CMS had used as the basis for six decisions regarding coverage of interventions for cardiovascular disease in the past decade.² We found an age disparity similar to that cited in the decision regarding CT colonography: the mean age of study participants in the cardiovascular trials was 60.1 years — well below

the average age of Medicare beneficiaries. As the CMS found with CT colonography, the trials we reviewed largely did not report outcomes according to age group. These findings suggest that many previously approved interventions may lack evidence of benefit in the Medicare population — the group for which U.S. taxpayers are footing the bill. We believe that the CMS's decision in the CT colonography case, therefore, is a long-overdue step toward meaningful validation of clinical-trial evidence in Medicare beneficiaries.

Our optimism, however, is cautious. Powerful pressure will inevitably be applied to the CMS. Indeed, after the agency published its draft decision in February, proponents of CT colonography, in a now-familiar pattern, quickly mobilized. More than 350