



Primary Care — Will It Survive?

Thomas Bodenheimer, M.D.

The American College of Physicians recently warned that “primary care, the backbone of the nation’s health care system, is at grave risk of collapse.”¹ And indeed, primary care is facing

a confluence of factors that could spell disaster. Patients are increasingly dissatisfied with their care and with the difficulty of gaining timely access to a primary care physician; many primary care physicians, in turn, are unhappy with their jobs, as they face a seemingly insurmountable task; the quality of care is uneven; reimbursement is inadequate; and fewer and fewer U.S. medical students are choosing to enter the field.

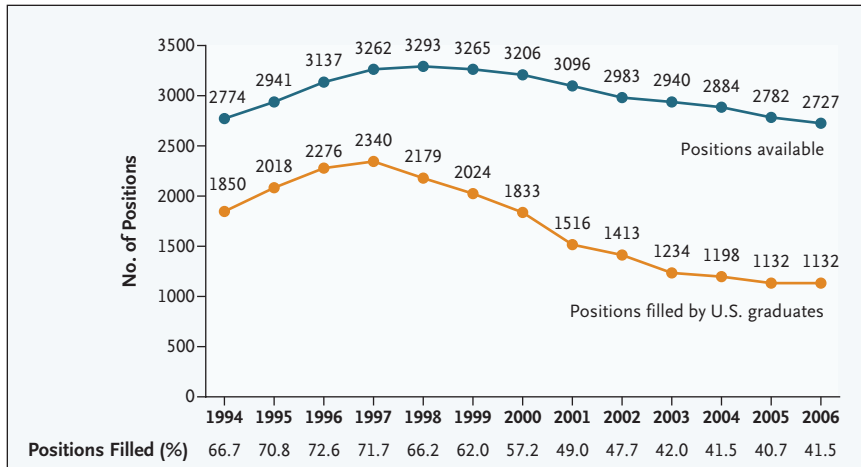
The great majority of patients prefer to seek initial care from a primary care physician rather than a specialist,² but their unhappiness with their primary care experience is growing.³ At the same time, primary care physicians are

expressing frustration that the knowledge and skills they are expected to master exceed the limits of human capability, making it impossible to provide the best care to every patient.⁴ The scope of primary care extends from uncomplicated upper respiratory and urinary tract infections to the longitudinal care of elderly patients with diabetes, coronary heart disease, arthritis, and depression — who may also have limited proficiency in English.

Reimbursement based primarily on the quantity of services delivered, rather than on quality, forces primary care physicians onto a treadmill, devaluing their professional work life. The short, rushed visits with overfilled agen-

das that cause patients dissatisfaction simultaneously breed frustration in physicians.

Contributing to this frustration is the growing set of demands placed on primary care. The preventive services that a physician either ought to provide because there is evidence of their efficacy or might provide because of the patient’s preferences (which must therefore be discussed) have multiplied. The prevalence of chronic conditions — most of which are handled in primary care settings — is increasing, as are requirements for their proper management. Not only has the number of primary care tasks grown exponentially, but physician performance is being measured and physicians are even being paid according to their ability to perform these tasks reliably and consistently. It has been estimated that it would take 10.6 hours per working day to deliver all recommend-



Family Medicine Residency Positions and Number Filled by U.S. Medical School Graduates.

From the American Academy of Family Physicians, based on data from the National Resident Matching Program.

ed care for patients with chronic conditions, plus 7.4 hours per day to provide evidence-based preventive care, to an average panel of 2500 patients (the mean U.S. panel size is 2300).⁴

These excessive demands contribute to long waiting times and inadequate quality of care for patients. A growing proportion of patients report that they cannot schedule timely appointments with their physician. Emergency departments are overflowing with patients who do not have access to primary care. The majority of patients with diabetes, hypertension, and other chronic conditions do not receive adequate clinical care,⁴ partly because half of all patients leave their office visits without having understood what the physician said.⁵

These problems are exacerbated by the system of physician payment.¹ Thirty minutes spent performing a diagnostic, surgical, or imaging procedure often pays three times as much as a 30-minute visit with a patient with diabetes, heart failure, headache, and depression. The median income of specialists in 2004 was almost twice that of primary care physi-

cians, a gap that is widening. Data from the Medical Group Management Association indicate that from 1995 to 2004, the median income for primary care physicians increased by 21.4 percent, while that for specialists increased by 37.5 percent. A 2006 report from the Center for Studying Health System Change reveals that from 1995 to 2003, inflation-adjusted income decreased by 7.1 percent for all physicians and by 10.2 percent for primary care physicians. The 5 percent increase in Medicare payments for primary care announced in June 2006 is insufficient to narrow the gap.

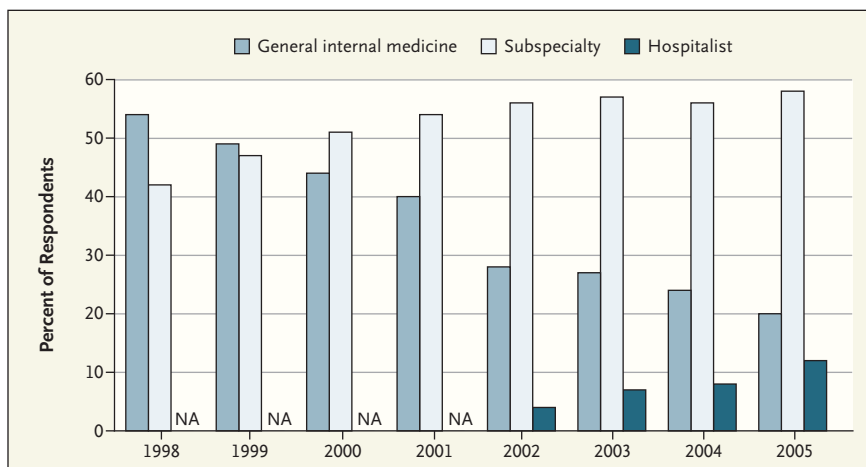
These factors add up to an unsurprising result: fewer U.S. medical students are choosing careers in primary care.¹ Between 1997 and 2005, the number of U.S. graduates entering family practice residencies dropped by 50 percent (see line graph). In 1998, half of internal medicine residents chose primary care; currently, about 80 percent become subspecialists or hospitalists (see bar graph).¹ These trends are occurring at a time of growing need for primary care for an aging population with an increased prevalence of chronic dis-

ease. Moreover, many nurse practitioners and physician assistants who could join the primary care workforce are instead going to work in wealthier specialty practices. Primary care practices in the United States now depend on luring physicians away from other countries.

Even as primary care spirals further into crisis, studies have demonstrated that a primary care-based health care system has the potential to reduce costs while maintaining quality. The hospitalization rates for diagnoses that could be addressed in ambulatory care settings are higher in geographic areas where access to primary care physicians is more limited. States with a higher ratio of generalist to population have lower per-beneficiary Medicare expenditures and higher scores on 24 common performance measures than states with fewer generalist physicians and more specialists per capita.¹

Fixing primary care requires actions on the part of primary care practices (microsystem improvement) and the larger health care system (macrosystem reform). A covenant is needed between those who pay for health care and those who deliver primary care: primary care must promise to improve itself, and in return, payers must invest in primary care.

Fortunately, microsystem improvement is taking place. Many primary care practices have instituted policies to reduce appointment delays. Learning collaboratives have catalyzed primary care practices — particularly in community health centers, integrated delivery systems, and academic medical centers — to implement components of the Chronic Care Model, effecting impressive improvements in process and out-



Proportions of Third-Year Internal Medical Residents Choosing Careers as Generalists, Subspecialists, and Hospitalists.

For 2001, the data reflect the career plans for all third-year internal medicine residents, including categorical, primary care, medicine–pediatrics, and other tracks. Data for all other years reflect the career plans of third-year residents enrolled in categorical and primary care internal medicine programs. Data for 1998 through 2003 are from Garibaldi et al.⁶ Data for 2004 and 2005 are from Carol Popkave, American College of Physicians. NA denotes not applicable.

come measures. Primary care professional societies are designing and testing new practice models.

Yet these efforts have touched only a fraction of primary care practices, with small private offices offering the greatest challenge. Moreover, these models have not sufficiently confronted the reality that primary care physicians lack the time to provide all evidence-based preventive and chronic care services for the average patient panel.⁴ This problem is addressed in a misguided fashion by concierge practices with small patient panels. Such practices are rarely available to lower-income patients, and if the approach were widely adopted, the primary care workforce would become grossly insufficient to care for the entire population.

A more thoughtful solution to physicians' time constraints requires a combination of team care and electronic encounters. Non-physician team members working with Web- and e-mail-based patient portals can perform routine

preventive care functions and manage less complex chronic care. However, forging cohesive and efficient teams is a challenge, and few payers adequately reimburse these services.

Unfortunately, little activity is evident at the macrosystem level. No serious proposals to narrow the income gap between primary care physicians and specialists are on the national agenda. Fee-for-service payment rewards quantity rather than quality, fostering the rushed visits that underlie primary care's shortcomings. Pay-for-performance programs appear to be insufficient to make a substantial difference; physicians could increase their income more — with less additional work — by adding one or two patient visits each day than by meeting all the quality standards in current performance-based payment programs.

Serious effort is required to develop a national primary care payment policy. Public policy on primary care does not exist; the

fortunes of primary care are dictated not by the health care needs of the country but by a specialty-rich, quantity-based reimbursement system. Few legislators, particularly among those responsible for the trend-setting Medicare program, are aware that primary care is struggling. An educational campaign is needed — to explain the nature and causes of the threats to primary care's survival; to provide well-documented information on the benefits of primary care, focusing on the potential for a strong primary care–based system to control health expenditures; and to offer concrete proposals for reforming both primary care at the microsystem level and the payment scheme at the macrosystem level.

Who might support a national policy to rescue primary care? Employers and insurers, public and private, may reap a return on investment by fostering a more effective primary care sector that will reduce health care costs. The public would benefit from microsystem improvement, with fewer appointment delays, higher quality, and more meaningful interpersonal relationships. Even specialists might recognize that they would suffer if primary care deteriorates, being forced to coordinate care and confront psychosocial issues in patients with multiple acute and chronic conditions rather than focusing on diagnosing and managing specific diseases within their scope of expertise. Whoever takes up the cause of primary care, one thing is clear: action is needed to calm the brewing storm before the levees break.

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1. The impending collapse of primary care medicine and its implications for the state of the nation's health care. Washington, D.C.: American College of Physicians, January 30, 2006. (Accessed August 10, 2006, at http://www.acponline.org/hpp/statehc06_1.pdf)

2. Grumbach K, Selby JV, Damberg C, et al. Resolving the gatekeeper conundrum: what

patients value in primary care and referrals to specialists. *JAMA* 1999;282:261-6.

3. Safran DG. Defining the future of primary care: what can we learn from patients? *Ann Intern Med* 2003;138:248-55.

4. Ostbye T, Yarnall KS, Krause KM, Pollak KI, Gradison M, Michener JL. Is there time for management of patients with chronic dis-

eases in primary care? *Ann Fam Med* 2005; 3:209-14.

5. Roter DL, Hall JA. Studies of doctor-patient interaction. *Annu Rev Public Health* 1989; 10:163-80.

6. Garibaldi RA, Popkave C, Bylsma W. Career plans for trainees in internal medicine residency programs. *Acad Med* 2005;80:507-12.

BECOMING A PHYSICIAN

Primary Care — The Best Job in Medicine?

Beverly Woo, M.D.

I first met Mr. B. during my internship, when he was a 29-year-old musician who had been admitted to the hospital with atypical pneumonia. After he was discharged, he kept his follow-up appointment with me, and I became his primary care physician. During the next 10 years, he succeeded in stopping smoking, and his major concern was his lack of steady employment. Just before turning 40, Mr. B. developed idiopathic thrombocytopenic purpura (ITP). His thrombocytopenia responded to corticosteroids, but it recurred when the dose was tapered. Between the medication and the uncertainty, he became depressed.

During the next 10 years, Mr. B. divorced and remarried, and he found a terrific job. He then developed hypertension and painful attacks of gout. Management of these two new conditions along with his ITP required constant juggling of his medications. In 2004, Mr. B. came to see me because of right-lower-quadrant abdominal pain. A screening colonoscopy in 2003 had shown only an adenoma, but now another colonoscopy revealed adenocarcinoma of the cecum. I referred him to an excellent surgeon and then an oncologist and helped him make important clinical and life decisions until his death last year from bowel obstruction at the age of 60.

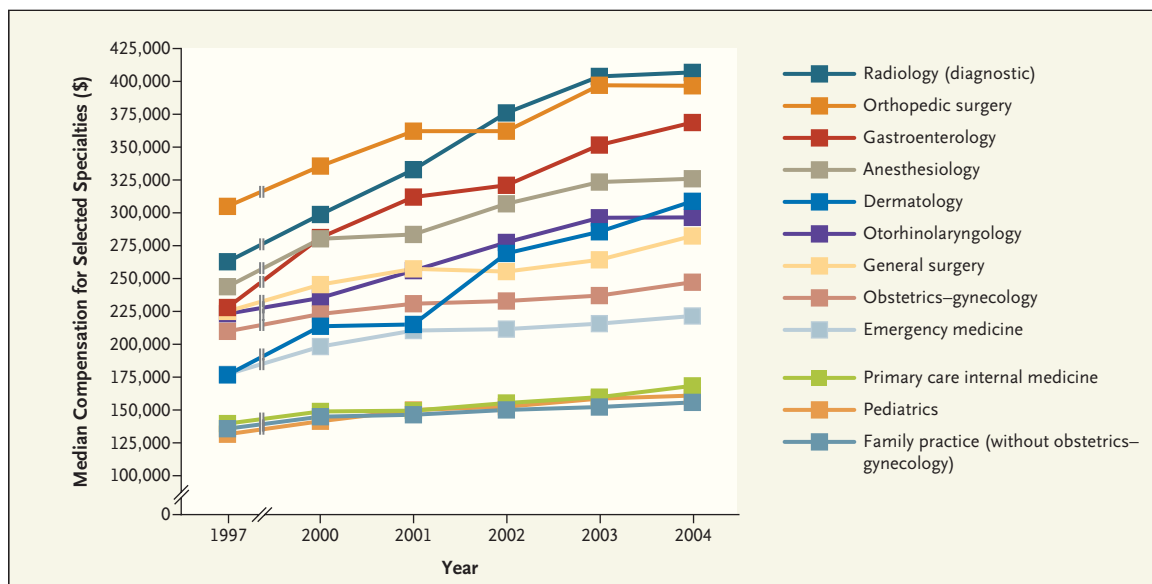
After he died, I reflected on my 30-year relationship with Mr. B. I recalled that he had often called or sent me notes with updates and questions. In his medical record, I found a note he had sent after seeing the hematologist for his ITP in 1983: "Great phone call from Dr. G. He said bone marrow perfect. Body is making antibody against platelets. . . . Steroids fixed blood count. . . . See Bev, she will take care of you!" It meant a great deal when Mr. B. told me, at several points in our relationship, how grateful he was that I was caring for him and how important it was to have a doctor he could trust. It was a privilege to be Mr. B.'s physician, and it is a great source of satisfaction that I was able, with my colleagues, to help him, whether his needs were big or small.

The opportunity to develop long-term relationships with patients like Mr. B. is only one of many rewarding aspects of being a primary care physician. It is endlessly fascinating to me, for instance, that patients' symptoms can be manifestations of so many different disorders. In my practice, an older woman with forgetfulness turned out to have central nervous system Lyme disease, and a younger woman with a subtle change in her speech had amyotrophic lateral sclerosis. Another patient's fatigue was caused

by Addison's disease — but it could have been a symptom of heart failure, cancer, depression, or even transient ennui. Recently, a woman who came seeking advice about a diet because she could no longer button her blue jeans turned out to have ascites and ovarian cancer.

As a primary care physician, I see firsthand how social factors affect patients who have chronic diseases. Mr. S. had a relapse of alcoholism after separating from his wife, Ms. R.'s glycosylated hemoglobin level skyrocketed when her daughter became ill, and Ms. H. had an exacerbation of her colitis when she lost both her job and her housing. Because primary care doctors are often the only physicians whom a patient visits, we must identify problems that are frequently difficult to talk about, such as alcohol and drug use, domestic violence, and risky sexual practices. And there is the need to care for an increasing number of patients with multiple complex medical conditions in this era of shortened hospital stays. Clearly, practicing primary care medicine is much more challenging than "just learning how to use Dyazide" — the scoffing description that the director of a residency program offered a colleague of mine when he said he wanted to go into the field.

So I should have had plenty of



Median Compensation for Selected Medical Specialties.

Data are from the Medical Group Management Association Physician Compensation and Production Survey, 1998 and 2005.

ammunition ready when a third-year medical student made an urgent appointment with me to talk about her future. “I just came here so that one person would tell me that I wasn’t crazy to go into internal medicine,” she said. She had come to medical school because she wanted to take care of patients, she said, but she was discouraged by negative remarks about primary care medicine made by faculty members and fellow students. Then she asked me whether I liked being a primary care doctor.

I hesitated before I answered — after all, I thought, it was true that morale had declined among primary care practitioners during the past few years. I told her, honestly, what I considered to be the problems as well as the rewards of this career path, and said I thought that primary care was a really good job. Later, I wished that I had told her what I really think: that taking care of patients as their primary care doctor is the best job in medicine.

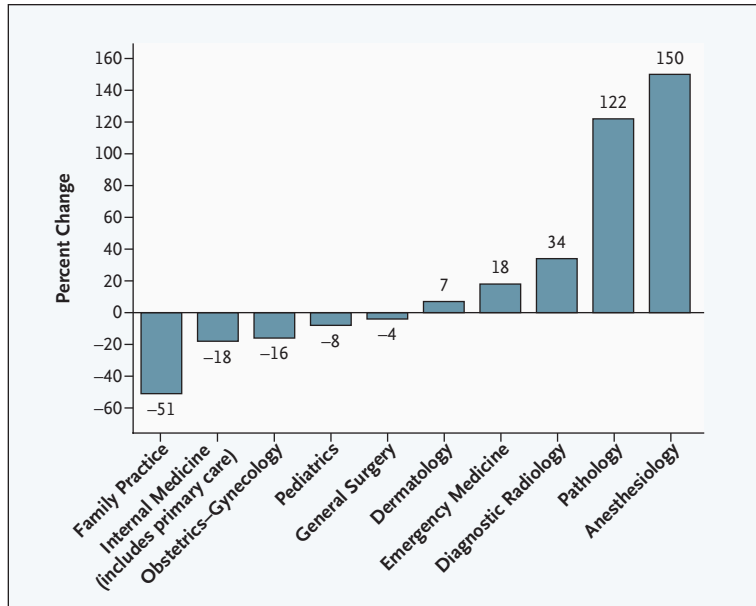
When I was a third-year med-

ical student in the 1970s, like her I was attracted to primary care medicine and was discouraged by my mentors. My career choice was aided, in part, by a prevailing sense that primary care medicine would be part of a larger social and political movement toward more equitable health care. Also, the timing was right: I was able to enter one of the recently established residency programs in primary care internal medicine, which were funded by the federal government and private foundations that believed the country needed more primary care physicians. Primary care practice has been a challenging and deeply satisfying career for me. So I couldn’t help feeling disappointed when I learned that this student chose another specialty. I’m sure she would have been a wonderful primary care doctor.

It is disturbing to me that changes in our health care system have made primary care medicine less satisfying for practitioners and less attractive to students and residents. Primary care physicians are

under pressure to see patients at a faster pace than ever before, even as their responsibilities increase. Add to these difficulties the increasing administrative burdens and the fact that the remuneration for primary care specialties is at the bottom of the pay scale for physicians (see line graph), and it is no wonder that primary care medicine is in crisis.

Students and residents see that primary care physicians are dissatisfied and have little optimism that this part of our dysfunctional health care system will be fixed anytime soon. They are voting with their feet, choosing more lucrative specialties that have more “controllable” responsibilities.^{1,2} The proportion of U.S. medical school graduates entering the three primary care specialties (internal medicine, family medicine, and pediatrics) dropped from 50 percent in 1998 to 38 percent in 2006 — that is, a loss from primary care of more than 1500 students this year, as compared with 1998 (see bar graph).³ Moreover, the percentage of third-year



Percent Change between 1998 and 2006 in the Percentage of U.S. Medical School Graduates Filling Residency Positions in Various Specialties.

Data are from the National Resident Matching Program.

residents in internal medicine planning to become general internists who are not hospitalists decreased dramatically during this period, from 54 percent in 1998 to 27 percent in 2003, a year in which only 19 percent of first-year internal medicine residents were planning on such a career.²

Some have said that this decline reflects a lack of commitment among the current generation of trainees. I disagree. Medical students and residents are no less idealistic or dedicated today than they have been in the

past. But the decrease in job satisfaction, the increase in educational debt (which now routinely exceeds \$100,000), and the growing disparity in salary relative to other specialties could together create a strong sense that becoming a primary care physician may be a fool's errand. If the current problems of primary care practice are not addressed, the number of students and residents entering the field will undoubtedly continue to decline.

With all the changes in our health care system, one thing remains constant: the needs of pa-

tients. Patients want a continuing relationship with a doctor whom they trust, and they increasingly need that doctor to act as an advocate to help them get the best care within a fragmented health care system.⁴ A strong primary care infrastructure is associated with better health outcomes, lower costs, and a more equitable health care system, since primary care is key to providing services to vulnerable populations.⁵ There is an urgent need to reverse current trends. Although the line of students signing up for a career in primary care medicine is getting shorter, the line of patients in need of primary care doctors is getting longer every day.

An interview with Dr. Woo can be heard at www.nejm.org.

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1. Dorsey ER, Jarjoura D, Rutecki GW. The influence of controllable lifestyle and sex on the specialty choices of graduating U.S. medical students, 1996-2003. *Acad Med* 2005;80:791-6.
2. Garibaldi RA, Popkave C, Bylsma W. Career plans for trainees in internal medicine residency programs. *Acad Med* 2005;80:507-12.
3. National Resident Matching Program. (Accessed August 10, 2006, at <http://www.nrmp.org>.)
4. Safran DG. Defining the future of primary care: what can we learn from patients? *Ann Intern Med* 2003;138:248-55.
5. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q* 2005;83:457-502.

FOCUS ON RESEARCH

Marburg Hemorrhagic Fever — The Forgotten Cousin Strikes

Heinz Feldmann, M.D.

Related article, p. 909

More than 30 years after the discovery of Marburg virus as the causative agent of an outbreak of severe viral hemorrhagic fever in Germany and the former

Yugoslavia in 1967, the long-forgotten pathogen has struck twice in the recent past, leaving no doubt about its survival in nature or its pathogenic potential. The

first strike came in 1998 (and lasted until 2000), when Marburg virus hit a gold-mining community in the northeastern region of the Democratic Republic of the Congo,