

APM Perspectives

The Association of Professors of Medicine (APM) is the national organization of departments of internal medicine at the US medical schools and numerous affiliated teaching hospitals as represented by chairs and appointed leaders. As the official sponsor of The American Journal of Medicine, the association invites authors to publish commentaries on issues concerning academic internal medicine.

For the latest information about departments of internal medicine, please visit APM's website at www.im.org/APM.

Late to the Feast: Primary Care and US Health Policy

Eugene C. Rich, MD,^a Anna Maio, MD^b

^aDepartment of Medicine and ^bDivision of General Internal Medicine, Creighton University School of Medicine, Omaha, Neb.

As health care spending in the United States increases, discontent among primary care physicians continues to grow, and student interest in primary care continues to plummet.¹⁻³ Policymakers struggle with public concerns about managed care and insurance gaps; physician concerns about malpractice rates and decreases in Medicare fee schedules; and medical school and teaching hospital concerns about new technology costs and Graduate Medical Education (GME) reimbursements.⁴⁻⁷ The juxtaposition of increasing health care expenditures with highly visible demands for extra resources has afforded relatively little attention to primary care.

Perhaps the difficult position of US primary care physicians stems from neither the irrelevance of the primary care role nor inadequacies of primary care professionals, but from structural barriers in financing. In other industrialized nations, primary care physicians remain prominent and achieve better outcomes with fewer resources.8-12 This commentary explores the evolution of policies affecting physician, medical school, and teaching hospital revenues, as well as potential barriers to sustaining the primary care role in the United States. For purposes of this discussion, primary care adheres to the Institute of Medicine (IOM) definition as a "provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community."¹³

EVOLUTION OF PHYSICIAN FEE SCHEDULES

A combination of private and public policy decisions, beginning with the rise of private health insurance in the 1930s, have influenced the fee-for-service system.¹⁴⁻¹⁷ Hospital administrators, general practice physicians, and patients began preferring that insurance cover expensive procedures and hospital stays, and not cover "little ticket" expenses, such as office-based evaluation and management services.¹⁴⁻¹⁶

With rapid advances in technology, medical and surgical subspecialties manage increasing numbers of technically complex and invasive diagnostic and therapeutic procedures.^{16,18} The development of these specialized modalities provides important health care advances throughout the industrialized world. However, ability to perform more procedures from improved techniques and technology does not include a reduction in fees.¹⁹ These trends have the effect of creating different classes of medical practitioners—those who specialize in well-reimbursed technical services (historically provided in hospitals) and those who specialize in historically under-reimbursed evaluation and management services.

In the 1960s, surgical specialists earned an average of 40% more than general practitioners and 30% more than internal medicine physicians.²⁰ When Medicare was created in 1966, the US government adopted private insurance payment policies guided by billing practices that prevailed in the medical community, thus reinforcing historical imbalances.^{8,16,17} By extending "third party" coverage to a large and growing population of older Americans, Medicare offered new opportunities for delivering procedural services. Demand for surgical and medical subspecialists grew rapidly, and

Requests for reprints should be addressed to Eugene C. Rich, MD, Department of Medicine, Creighton University School of Medicine, 601 North 30th Street, Suite 5850, Omaha, NE 68131.

E-mail address: richec@creighton.edu.

incomes for these specialists grew faster than inflation.²¹ By 1989, a general surgeons' average income was 2.5 times greater and a surgical subspecialists' income three to five times greater than that of a family physician.²² Although many specialties still required

PERSPECTIVES VIEWPOINTS

of primary care medicine.

primary care.

expenditures.

The history of physician fee schedules

• Several practice, institutional, and cul-

• The future of primary care medicine de-

pends on administrative policies affect-

ing the distribution of health care

tural barriers exist to hinder the success

and private health insurance in the

United States has negatively affected

grueling years in residency and a career of long hours in the hospital, modest additional training yields substantial advantages in incomes and "controllable lifestyle" relative to primary care.^{23,24}

The resource-based relative value scale (RBRVS) was introduced to moderate some Medicare fee schedule problems, but resistance by many specialist physician organizations blunted the impact of proposed changes.^{25,26} The delayed and greatly altered implementation of resourcebased practice expense pol-

icies is an important example.^{26,27} Although RBRVS offered modest improvements in payment for evaluation and management services, annual adjustments in recent years have not kept pace with rising administrative expenses.²⁸ Many medical specialties did experience an appreciable decrease in Medicare payments. This, when combined with managed care discounts negotiated in the 1990s, contributed to a noticeable reduction in specialty physician income.²⁹ However, most specialty physicians still earn more than primary care physicians, and recent analyses suggest training in primary care does not provide an adequate "return on investment" in comparison with advanced subspecialty training.³⁰⁻³²

THE EVOLUTION OF PRIVATE HEALTH INSURANCE

An alternative to fee-for-service primary care practice began quietly developing in the 1930s.¹⁶ Prepaid group practice—multi-specialty practices financed through capitation payments on behalf of health plan members—were developed into a primary care infrastructure that was integrated, accessible, and accountable.^{8,15,33} By 1990, the spread of these health maintenance organizations (HMOs) was seen as an important solution to 25 years of startling growth in US health care costs.^{28,33} Corporate executives and health plan CEOs touted the advantages of primary care over specialty care. Capitated and integrated delivery systems were seen as the new paradigm where primary care professionals would manage populations of patients and control access to specialized services.^{34,35} Recruiting and organizing primary care networks transiently increased income for primary care physicians in many metropolitan areas, whereas specialists' incomes stagnated or decreased.²⁹ Student interest in primary

> care greatly increased (Figure) and primary care residency programs expanded.^{3,36,37}

Unfortunately, successful practice organizations could not grow quickly enough. Primary care practices developed in the fee-for-service model found that they could not rapidly develop the required information systems and administrative infrastructure to achieve care coordination. Specialist physicians, with declining incomes, became hostile to primary care's efforts to provide coordinated and comprehensive care. Without an opportunity to realize the benefits of a robust primary care infrastructure, patients became concerned about potential loss of access to special-

ized services and public support for HMOs dropped precipitously.^{4,38}

By 2003, physician payment by capitation had decreased substantially.³⁹⁻⁴¹ Many integrated delivery systems reorganized, and hospitals divested themselves of primary care practices.³⁹ Prepaid enrollments stagnated, and HMOs decreased while discounted fee-forservice, open access forms of managed care plans grew.^{41,42} Thus, the financial rationale for an insurance-funded, physician-based primary care function became less clear. Rather, health plans identified care coordination as one of their value-added services and began to contract with specialized vendors and national organizations to deliver both disease and case management.^{40,43}



Figure Percent medical graduates choosing generalist careers (FM, GIM, GPEDs).

PRACTICE BARRIERS TO DELIVERING PRIMARY CARE

While differences in fee schedules created substantial differences in earning potential among US physicians, additional problems presented barriers to building and sustaining practices meeting the IOM definition of primary care.¹³ Fee-for-service payments could arguably reward continuity because the provider receives a fee each time the patient makes a visit, but the financing of "accessibility" has proven more difficult. With high overhead expenses and limited fees, primary care practices have to be careful regarding unused capacity.⁴⁴ Physicians earn more income with scheduled appointments rather than open slots for urgent access. In the past, physicians may have "fit in" extra patients. Family obligations and the cost of employee overtime render this a difficult option for modern primary care practices. Coordination of care outside of office visits has not been paid for at all, because Medicare and private payers do not reimburse for telephone calls or other integrative services.45 Even comprehensiveness of care is discouraged under current fee-for-service incentives, with insufficient payment to justify time for risk factor assessment and preventive care advice. 46-48

With the shift from indemnity insurance to managed care, administrative burdens for all physicians increased substantially.⁴⁹ Federal regulations regarding self-referral for radiology and laboratory services, requirements for laboratory certification, new billing documentation requirements, and Health Insurance Portability and Accountability Act compliance imposed new administrative burdens on many physician offices. 50-54 Because primary care practices had relatively higher costs initially, the regulations had a greater impact on their infrastructure.^{30,44} In addition, because most specialized physicians receive their greatest revenue through large fee-for-service payments, they can afford to invest much more effort in successfully managing each payment while still realizing a lower cost for billing as a percent of total revenue.³¹

Nonetheless, promising new techniques for primary care practice have developed, including "direct access" office schedules, group visits, primary care teams, and chronic illness care, but the methods to finance and disseminate these innovations to patients, providers, and settings remain to be resolved.⁵⁵⁻⁶² Electronic medical records and other office informatics innovations hold promise to enhance quality greatly, but the current financial environment may limit use in primary care offices.⁶³ There is tremendous potential for growth in various forms of "asynchronous" physician-patient communication in primary care, including improved office responsiveness to patient telephone calls, electronic outreach, e-mail, patient education, electronic data sharing, and possibly image transmissions between patients and physicians.⁶⁴

Managed care organizations increasingly use their own information systems to identify health risks and implement care coordination and disease management services.⁴³ Recent trends in plan design offer "consumer-directed" features, including provider choice, physician profiles, shared decision-making, and higher out-of-pocket costs.⁴ The distinct role and value of primary care is not well articulated in these insurance products. With primary care under-funded by private insurance, the "concierge" or "boutique" practice has emerged where patients pay physicians directly to provide personalized medical and carecoordination services.^{65,66}

It is hardly surprising, therefore, that student interest in primary care careers has decreased once again (Figure), and the physician workforce in the United States has become unusually weighted toward medical, surgical, and hospital-based subspecialties.^{3,8,24,67} These specialists manage greater financial resources, influencing not only physician compensation but also facilities and staff. Thus, in many settings, subspecialists have greater access to the resources needed to provide accessible, coordinated, and patient-oriented care.^{68,69}

INSTITUTIONAL BARRIERS TO SUSTAINING PRIMARY CARE

Teaching hospitals also have played an important role in developing and sustaining primary care practice in the United States. Hospitals have strong incentives to support specialized practice because surgical and other specialized procedural services have long provided their main sources of profit.^{16,70} With the introduction of the Medicare Prospective Payment System (PPS) in the 1980s, these incentives became more intense and hospitals developed robust infrastructure to support and market specialized services.^{13,71,72} Although there was transient development of primary care networks during the managed care scare of the mid-1990s, many hospitals now focus on providing specialized services and are investing in specialized "product lines."^{41,73,74}

Medical schools and teaching hospitals also have influenced primary care through emphasis on medical student education.^{13,24} These institutions have benefited from substantial societal investment in specialized practice and hospital-based services. Demand for specialized resident positions and an economic imperative to leverage federal funding for residents to enhance investments in specialized programs resulted in disproportionate growth in specialized training programs until recent changes in Medicare GME payments.⁷⁵ Thus, by the early 1990s, prominent clinical programs, clinical faculty, and residency positions in many medical schools and teaching hospitals were related to subspecialty practice.^{8,13,24}

Even if financing clinical programs at these institutions did not drive them toward a specialized infrastructure, the highly specialized orientation of biomedical research would have presented a challenge for cultivating the primary care perspective. Since the Flexner report, medical schools and teaching hospitals have focused on clinical and biomedical scholarship.⁷⁰ Federal funding for health care research has, for many years, been substantially directed toward biomedical science. Funding opportunities for generalist-oriented scholarship, such as medical education, clinical epidemiology, or health care delivery research, have remained modest. Therefore, medical schools and teaching hospitals necessarily invest substantial resources in specialized biomedical science research rather than research typically conducted by generalists.

CULTURAL BARRIERS TO PRIMARY CARE PRACTICE

Much has been written about "American Culture" in the evolution of the US health care system.^{76,39} Pundits suggest that Americans emphasize individual, rather than community rights and responsibilities.³⁹ This preference has been blamed for the decline of the public health infrastructure, the marginalization of safety net health care provider systems, the tolerance of high rates of uninsured, the acceptance of for-profit entrepreneurism in delivery of health services, the emphasis on illness treatment rather than disease prevention, and reliance on "choice" as a proxy for "quality." Americans appear fascinated by technical, scientific solutions and prefer quick action and straightforward solutions as evidenced by the prominence of scientific advances and specialized medicine so visible in the news media and popular television shows.^{16,39}

Although the many exciting advances in biomedical science do not highlight primary care, they certainly need not detract from it. Germany and Switzerland also have achieved major advances in biotechnology and have invested in substantial high technology medical resources.¹² Nonetheless, primary care physicians in these countries are more prevalent and better compensated when compared with specialized physicians.¹² In the United States, however, the pervasive incentives disadvantaging primary care have led to an unusual degree of prominence of specialist physicians in both numbers and affluence relative to other industrialized countries. This status likely affects the relative visibility and attractiveness of primary care in the community and media.

EMERGING TRENDS RELEVANT TO THE FUTURE OF PRIMARY CARE

As previously discussed, the fee-for-service payments long prevalent in the United States do not provide support for key primary care functions such as comprehensiveness, coordination, or accountability. Furthermore, most physicians do not have the financial wherewithal to develop the information systems and interdisciplinary teams required for sophisticated interventions to manage chronic illness.⁷⁷ There are a growing number of problems caused by the resulting lack of care coordination.⁷⁸

Recent studies suggest rising health care costs may be complicated by the decline in primary care infrastructure.^{11,79-81} The United States faces rapidly growing numbers of older individuals with multiple chronic illnesses.⁸² The benefits of increased access to specialized physicians may be subverted by failures in care coordination among multiple independent specialist offices. Indeed, a survey of consumer experiences with patient safety and quality information recently found that two thirds of respondents felt "coordination among the different health professionals that they see is a problem."⁸³ Similarly, in a survey of Medicare beneficiaries, investigators found a decline in the continuity and integration of care by primary care physicians, as well as in the quality of primary care interactions with patients.⁸⁴

Securing substantial enhancements to traditional fee-for-service payments for primary care may prove difficult at a time of record health care expenditures. Nonetheless, the Centers for Medicare & Medicaid Services (CMS) recently published the "Medicare Program Five-Year Review of Work Relative Value Units under the Physician Fee Schedule," proposing substantive changes to several outpatient evaluation and management codes and offering meaningful relief to primary care physicians.85 However, simply enhancing fee-for-service payments for traditional face-to-face encounters will likely not be sufficient to establish the needed primary care infrastructure. The American College of Physicians recently issued a report on the "advanced medical home," and the Society of General Internal Medicine has extended this work with its report "Redesigning the Practice Model for General Internal Medicine."^{76,86} Both reports outline in greater detail the administrative and financial rationale for fundamental payment reforms to support comprehensive, coordinated primary medical care in the United States. Policymakers and employers are undertaking a re-examination of traditional fee-for-service and considering providing support for inter-visit communication, nonvisit-related management, information systems, chronic disease management programs, and quality improvement initiatives.^{61,87,88} Business leaders have initiated programs such as Bridges to Excellence to provide non-fee-for-service payments for improved chronic illness care, and CMS is introducing incentive programs to support chronic illness care and quality improvement.^{81,87,89} The challenge will be to sustain and expand such reforms in the face of near-term resource

constraints to realize long-term improvements in efficiency and effectiveness.

CONCLUSION

The problems confronting primary care in the United States are longstanding, complex, and not amenable to easy solution, either by policymakers or academics. Thoughtful, articulate, and evidence-based advocacy will be needed to address them. The share of the nation's wealth devoted to health care may be appropriate, but it has been distributed inappropriately by past and current administrative decisions. It will take courageous leadership to rectify this. Primary care can be saved and expanded by redistributing reimbursement away from technical specialties to the providers at the front lines of continuing health care for the nation's population. In doing so, the US health care system will mirror other industrialized nations' health care priorities, as well as provide better outcomes and greater efficiencies.

References

- Smith C, Cowan C, Heffler S, Catlin A. National health spending in 2004: recent slowdown led by prescription drug spending. *Health Aff (Millwood)*. 2006;25:186-196.
- Landon BE, Aseltine R, Shaul JA, et al. Evolving dissatisfaction among primary care physicians. *Am J Manag Care*. 2002;8:890-901.
- Division of Medical Education. Graduation Questionnaire. All Schools Reports. Washington, DC: Association of American Medical Colleges; 2006.
- Rich EC, Oasan A, Maio A. Whatever happened to managed care? Am J Med. 2003;114:426-430.
- Studdert DM, Mello MM, Brennan TA. Medical malpractice. N Engl J Med. 2004;350:283-292.
- MGA Government Affairs Department. 2006 final Medicare rule reduces physician payment by 4.4 percent. *MGMA Connex*. 2006;6:16-18.
- Committee on the Roles of Academic Health Centers in the 21st Century. Academic Health Centers: Leading Change in the 21st century. Washington, DC: Institute of Medicine; 2004.
- Starfield B. Primary Care: Concept, Evaluation, and Policy. New York, NY: Oxford University Press; 1992.
- Macinko J, Starfield B, Shi L. The contribution of primary care systems to health outcomes within Organization for Economic Cooperation and Development (OECD) countries, 1970-1998. *Health Serv Res.* 2003;38:831-865.
- Starfield B, Shi L. Policy relevant determinants of health: an international perspective. *Health Policy*. 2002;60:201-218.
- Starfield B, Shi L, Grover A, Macinko J. The effects of specialist supply on populations' health: Assessing the evidence. *Health Aff (Millwood)*. 2005;(SupplWebExclusives):W5,97-107.
- Organisation for Economic Co-operation and Development. *Health* at a Glance—OECD Indicators 2005. Paris, France: Organisation for Economic Co-operation and Development; 2005.
- Committee on the Future of Primary Care, Donaldson MS. Primary Care: America's Health in a New Era. Washington, DC: Institute of Medicine; 1996.
- American Society of Internal Medicine. Reimbursement for physician's cognitive and procedural services: a white paper. *Internist.* 1981;22(Suppl):S1-S4.

- Fein R. Medical Care, Medical Costs. The Search for a Health Insurance Policy. Cambridge, Ma: Harvard University Press; 1986.
- Starr P. The Social Transformation of American Medicine. New York, NY: Basic Books; 1982.
- Delbanco TL, Meyers KC, Segal EA. Paying the physician's fee: Blue Shield and the reasonable charge. *N Engl J Med.* 1979;301: 1314-1320.
- Pauly MV. Paying Physicians: Options for Controlling Cost, Volume, and Intensity of Services. Ann Arbor, MI: Health Administration Press; 1992.
- Penchansky R, Rosenthal G. Productivity, price, and income behavior in the physicians' services market. *Med Care*. 1965;3: 240-244.
- Center for Health Services Research and Development. *Profile of Medical Practice*. Chicago, IL: American Medical Association; 1978.
- Physician Payment Review Commission. Annual Report to Congress. Washington, DC: Physician Payment Review Commission; 1989.
- Center for Health Policy Research. Socioeconomic Characteristics of Medical Practice. Chicago, IL: American Medical Association; 1989.
- Schwartz MD, Linzer M, Babbott D, et al. Medical student interest in internal medicine. Initial report of the Society of General Internal Medicine Interest Group Survey on Factors Influencing Career Choice in Internal Medicine. *Ann Intern Med.* 1991;114:6-15.
- Council on Graduate Medical Education (Third Report). Improving Access to Care through Physician Workforce Reform: Directions for the 21st Century. Washington, DC: Council on Graduate Medical Education; 1992.
- Physician Payment Review Commission. Annual Report to Congress. Washington, DC: Physician Payment Review Commission; 1996.
- Hsiao WC, Dunn DL, Verrilli DK. Assessing the implementation of physician-payment reform. *N Engl J Med.* 1993;328: 928-933.
- Proudfoot ML. A critique of the practice-expense values of the resource-based relative value scale. J Fam Pract. 1993; 37:57-67.
- Medical Services Committee. Revitalizing Internal Medicine: Recommendations for Resolving Payment and Practice Hassles. Philadelphia, PA: American College of Physicians; 2003.
- Reed MC, Ginsburg PB. Behind the times: physician income, 1995-99. Data Bull (Cent Stud Health Syst Change). 2003;(24):1-2.
- Center for Health Policy Research. Socioeconomic Characteristics of Medical Practice. Chicago, IL: American Medical Association; 1993.
- Medical Group Management Association. *MGMA Physician* Compensation and Production Survey. Englewood, CO: Wiley & Sons; 2003.
- Weeks WB, Wallace AE. Long-term financial implications of specialty training for physicians. Am J Med. 2002;113:393-399.
- 33. Halvorson GC. *Strong Medicine*. New York, NY: Random House; 1993.
- 34. Eisenberg JM. The internist as gatekeeper. Preparing the general internist for a new role. *Ann Intern Med.* 1985;102:537-543.
- Wartman SA, Wilson M, Kahn N. The generalist health care workforce: Issues and goals. *J Gen Intern Med.* 1994;9(4 Suppl 1):S7-S13.
- Kahn NB, Schmittling GT, Garner JG, Graham R. Entry of US medical school graduates into family practice residencies: 1996-1997 and 3-year summary. *Fam Med.* 1997;29:544-552.
- Kahn NB, Garner JG, Schmittling GT, et al. Results of the 1997 National Resident Matching Program: family practice. *Fam Med.* 1997;29:553-558.

- Kilborn P. Reality of the H.M.O. system doesn't live up to the dream. *The New York Times*. Page A1, October 5, 1998.
- Morrison JI. Health Care in the New Millennium: Vision, Values, and Leadership. San Francisco, CA: Jossey-Bass Publishers; 2000.
- Coddington DC. Beyond Managed Care: How Consumers and Technology are Changing the Future of Health Care. San Francisco, CA: Jossey-Bass Publishers; 2000.
- 41. Kaiser Family Foundation and the Health Research and Educational Trust. *Employer Health Benefits 2003 Annual Survey*. Washington, DC: Kaiser Family Foundation and the Health Research and Educational Trust; 2003.
- 42. Strunk BC, Reschovsky JD. Kinder and Gentler: Physicians and Managed Care, 1997-2001 (Tracking Report No. 5). Washington, DC: The Center of Studying Health System Change; 2002.
- Bodenheimer T. Disease management—promises and pitfalls. N Engl J Med. 1999;340:1202-1205.
- 44. Sox HC. Saving office practice. Ann Intern Med. 2003;139:227-228.
- Pham HH, Devers KJ, May JH, Berenson R. Financial pressures spur physician entrepreneurialism. *Health Aff (Millwood)*. 2004; 23:70-81.
- Rich EC, Burke W, Heaton CJ, et al. Reconsidering the family history in primary care. J Gen Intern Med. 2004;19:273-280.
- 47. Yarnall KS, Pollak KI, Ostbye T. Primary care: is there enough time for prevention? *Am J Public Health*. 2003;93:635-641.
- Ostbye T, Yarnall KS, Krause KM, et al. Is there time for management of patients with chronic diseases in primary care? *Ann Fam Med.* 2005;3:209-214.
- 49. Meharg JG. The hassle factor. Ann Intern Med. 1992;117:797.
- Moskowitz H, Sunshine J, Grossman D, et al. The effect of imaging guidelines on the number and quality of outpatient radiographic examinations. *AJR Am J Roentgenol.* 2000;175:9-15.
- Johnson BA, Niederman GA, Bowman LE, McCullough AC. New Stark regulations: key issues for health care decision-makers. *Med Group Manage J.* 1998;45:10,12-15,50.
- 52. Born PH, Thran SL. The influence of CLIA '88 on physician office laboratories. *J Fam Pract.* 1998;46:319-327.
- Kikano GE, Goodwin MA, Stange KC. Evaluation and management services. A comparison of medical record documentation with actual billing in community family practice. *Arch Fam Med.* 2000;9:68-71.
- Darves B. From minor annoyances to treatment delays, physicians feeling fallout of HIPAA privacy law. ACP Observer. September 2003.
- Murray M, Berwick DM. Advanced access: reducing waiting and delays in primary care. JAMA. 2003;289:1035-1040.
- Wellington M. Stanford Health Partners: rationale and early experiences in establishing physician group visits and chronic disease self-management workshops. J Ambul Care Manage. 2001;24:10-16.
- 57. Safran DG. Defining the future of primary care: what can we learn from patients? *Ann Intern Med.* 2003;138:248-255.
- Rothman AA, Wagner EH. Chronic illness management: what is the role of primary care? Ann Intern Med. 2003;138:256-261.
- Committee on Quality of Health Care in America. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC: Institute of Medicine; 2001.
- Casalino L, Gillies RR, Shortell SM, et al. External incentives, information technology, and organized processes to improve health care quality for patients with chronic diseases. *JAMA*. 2003;289:434-441.
- Rosenthal MB, Fernandopulle R, Song HR, Landon B. Paying for quality: providers' incentives for quality improvement. *Health Aff (Millwood)*. 2004;23:127-141.
- 62. Larson EB, Fihn SD, Kirk LM, et al. The future of general internal medicine. Report and recommendations from the Society of General

Internal Medicine (SGIM) Task Force on the Domain of General Internal Medicine. *J Gen Intern Med.* 2004;19:69-77.

- 63. Bodenheimer T, Grumbach K. Electronic technology: a spark to revitalize primary care? *JAMA*. 2003;290:259-264.
- Epstein RM. Virtual physicians, health systems, and the healing relationship. J Gen Intern Med. 2003;18:404-406.
- 65. Sandy LG, Schroeder SA. Primary care in a new era: disillusion and dissolution? *Ann Intern Med.* 2003;138:262-267.
- 66. Government Accountability Office. Physician Services: Concierge Care Characteristics and Considerations for Medicare. Washington, DC: Government Accountability Office; 2005.
- Schroeder SA. The troubled profession: is medicine's glass half full or half empty? *Ann Intern Med.* 1992;116:583-592.
- McAlister FA, Lawson FM, Teo KK, Armstrong PW. A systematic review of randomized trials of disease management programs in heart failure. *Am J Med.* 2001;110:378-384.
- 69. Smetana GW, Landon, BE, Bindman AB, et al. A comparison of outcomes resulting from generalist vs specialist care for single discrete medical conditions: a systematic review and methodologic critique. *Arch Intern Med.* 2007;167:10-20.
- Ludmerer KM. *Time to Heal: American Medical Education from* the Turn of the Century to the Era of Managed Care. Oxford, NY: Oxford University Press; 1999.
- Long MJ, Chesney JD, Fleming ST. Profitable and unprofitable DRGs: the implications for access. *Health Serv Manage Res.* 1993;6:61-69.
- Munoz E, Mulloy K, Goldstein J, et al. Physicians' patient load per DRG, the consumption of hospital resources, and the incentives of the DRG prospective payment system. *Acad Med.* 1990; 65:533-538.
- Rodriguez JL, Jacobs DM, Zera RT, et al. Academic practice groups: strategy for survival. *Surgery*. 2000;128:505-512.
- Berenson RA, Bodenheimer T, Pham HH. Specialty-service lines: salvos in the new medical arms race. *Health Aff (Millwood)*. 2006;25:w337-w343.
- Eisenberg JM. Local logic and national nonsense: financing of graduate medical education encourages expansion of residencies. *J Gen Intern Med.* 1993;8):639-640.
- Babbott SF, Bigby JA, Day SC, et al. Redesigning the Practice Model for General Internal Medicine: A Proposal for Coordinated Care. Washington, DC: Society for General Internal Medicine; 2006.
- Wolff JL, Boult C. Moving beyond round pegs and square holes: restructuring Medicare to improve chronic care. *Ann Intern Med.* 2005;143:439-445.
- Schoen C, Osborn R, Huynh PT, et al. Taking the pulse of health care systems: experiences of patients with health problems in six countries. *Health Aff (Millwood)*. 2005;(SuppWebExclusives): W5-509-525.
- Goodman DC, Stukel TA, Chang CH, Wennberg JE. End-of-life care at academic medical centers: implications for future workforce requirements. *Health Aff (Millwood)*. 2006;25:521-531.
- Fisher ES, Wennberg DE, Stukel TA, et al. The implications of regional variations in Medicare spending. Part 2: health outcomes and satisfaction with care. *Ann Intern Med.* 2003;138:288-298.
- Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q*. 2005;83:457-502.
- Anderson GF. Medicare and chronic conditions. N Engl J Med. 2005;353:305-309.
- 83. The Kaiser Family Foundation-Agency for Healthcare Research and Quality-Harvard School of Public Health. *National Survey on Consum*ers' Experiences with Patient Safety and Quality Information. Washington, DC: The Kaiser Family Foundation-Agency for Healthcare Research and Quality-Harvard School of Public Health, 2004.
- Montgomery JE, Irish JT, Wilson IB, et al. Primary care experiences of Medicare beneficiaries, 1998 to 2000. J Gen Intern Med. 2004;19:991-998.

- Medicare Program: Five-Year Review of Work Relative Value Units under the Physician Fee Schedule and Proposed Changes to the Practice Expense Methodology. *Fed Reg*, 2006;71:69623-70251.
- 86. American College of Physicians. The Impending Collapse of Primary Care Medicine and Its Implications for the State of the Nation's Health Care. Philadelphia, PA: American College of Physicians; 2006.
- 87. McClellan MB. Medicare Physician Payments. 2005:1.
- Millenson ML. Demanding Medical Excellence: Doctors and Accountability in the Information Age. Chicago, IL: University of Chicago Press; 1997.
- 89. Bridges to Excellence. *Bridges to Excellence Overview*. Available at: http://www.bridgestoexcellence.org/about_us/home.htm. Accessed May 26, 2006.