Unhealthy Trends: The Future Of Physician Services

Medicare could lead the way to integrated care by moving away from fee-for-service payment policies.

by Hoangmai H. Pham and Paul B. Ginsburg

PROLOGUE: *Health Affairs* came into the world just a few months before Paul Starr's *The Social Transformation of American Medicine,* published in 1982. Starr's influence was profound, even when he overstated his case. In the 1990s many analysts and experts assumed on Starr's authority that the medical profession was on the brink of corporatization. The empirical signals were mixed. But for managed care and managed competition to transform the delivery system, medicine would have to emerge from its cottage-industry cocoon. So people believed. When it didn't happen, the wheels came off the decade's preeminent policy bandwagon.

Instead, the organization of medical practice has evolved according to its own script, more slowly than Starr and others expected, in different directions, and in an environment quite unlike what the apostles of managed competition had in mind. As Starr himself cautioned, "A trend is not necessarily fate. Images of the future are usually only caricatures of the present." To the extent that it has occurred, the corporatization of medicine has been primarily small-scale and local, into single- rather than multispecialty groups, and under fee-for-service rather than capitated reimbursement. One- and two-physician practices seem finally to be evanescing. But the following review by Hoangmai Pham and Paul Ginsburg, based on more than a decade of painstaking local surveys and interviews, suggests that the changes that have finally begun to occur in physician organization are not necessarily focused on achieving a more rational allocation of resources or more efficient and effective care. Although some of the changes have the potential to unlock health system improvements, others may be leading toward further growth of excess spending and overuse of services.

Pham (mpham@hschange.org) is a senior health researcher and Ginsburg, president, at the Washington, D.C.–based Center for Studying Health System Change. This paper draws on research from the center's long-running Community Tracking Study. Both authors have written extensively on physician issues, and Ginsburg is the former executive director of the Physician Payment Review Commission, forerunner of today's Medicare Payment Advisory Commission.

DOI 10.1377/hlthaff.26.6.1586

ABSTRACT: In this paper we review current trends in payment systems, work settings, favored services, and accountability mechanisms that characterize physician practice. Current trends are pointing to higher spending, more tiering of access to care by ability to pay, and a greater role for larger practices that include both primary care and specialist physicians. Medicare's purchasing role is policymakers' most powerful lever to alter negative trends. Making fee-for-service payment more accurately reflect cost structures could immediately address some of these issues. Medicare can lead longer-term efforts to incorporate more per episode and capitated elements into the payment system, revamping incentives for physicians. [*Health Affairs* 26, no. 6 (2007): 1586–1598; 10.1377/hlthaff.26.6.1586]

RECENT YEARS HAVE WITNESSED many changes in how office-based physicians organize their practices to deliver medical services. Physicians are moving into larger practices and loosening affiliations with general hospitals; providing more ancillary services; and investing in enterprises that compete with hospitals for outpatient, or even inpatient, services.

Some of these developments may be undesirable if they lead to overuse of services or questionable quality of care. For example, physicians respond to inadvertent financial incentives by favoring services that are paid for particularly well over services that are paid for poorly. More physician services are subject to self-referral incentives. And the payment system has not evolved to support changes in practice, such as additional care coordination, to treat a growing number of patients with multiple chronic diseases. But other trends may be desirable, such as growing expectations that physicians will make evidence-based care decisions. And physicians' increasing use of health information technology (IT) may facilitate system-level approaches to improve care delivery.

In this paper we describe recent trends in the delivery of physician services and discuss what they portend if left unchecked. Then we discuss a range of possible policy initiatives to alter these trends and achieve better outcomes for society.

Traditional Delivery Of Services By Office-Based Physicians

■ **Office versus hospital functions.** Throughout the second half of the twentieth century, the predominant model of care for the majority of physicians included a clear demarcation between the types of services delivered in their offices and those delivered in hospital settings. For primary care physicians (PCPs) and many specialists, the office was the base of their practice—where they provided consultations, ongoing ambulatory care, and minor tests such as blood tests and electrocardiograms. These physicians traditionally viewed the hospital as their "workshop." In that setting, in inpatient or outpatient departments, physicians tended to provide services that were more technology dependent—diagnostic procedures such as endoscopies or advanced imaging reliant on (then) expensive equipment—and major procedures such as surgeries requiring operating rooms and support staff. Although they did not perform major procedures, PCPs and cognitive specialists such as endocrinologists also used hospitals as workshops where they managed care for their pa-

tients who required hospital admission. Because the hospital housed the workshop, it received payments from insurers to cover the costs of staff and the facility, while physicians received fees for the professional services they delivered there.

■ **Privileges and responsibilities.** The workshop function was a central element in the complex, symbiotic relationship between hospitals and physicians on their medical staffs.[1] Some physicians, such as anesthesiologists, have always had distinctive contracts with hospitals because they are largely hospital based; others, such as obstetricians, have developed tighter affiliations with hospitals over time. But for most physicians, the expectation was that they would accept certain responsibilities in exchange for staff privileges allowing them to use the hospital workshop. Chief among these were providing call coverage, for both admitted patients and those, including uninsured or publicly insured patients, needing evaluation in the emergency department; service on hospital governance committees; and teaching responsibilities at hospitals with training programs. Physicians who were primarily office based thus assumed parts of the hospital's mission as members of its medical staff but were largely free to use the workshop as autonomous practitioners.

■ **Limited accountability.** In this milieu, physicians faced limited accountability for their performance, largely because the available tools for quality assurance were blunt: licensing and accreditation requirements; oversight from licensing boards in cases of gross negligence or unethical behavior; and the threat of malpractice litigation. In theory, continuation of hospital privileges was subject to assessments that the physician provided adequate quality of care, but enforcement was usually limited to egregious outlier cases.[2] The prevailing culture revered the individual physician as hero, holding peer regard as primary and rarely invoking objective standards of practice, which left payers little role to play in monitoring the quality of care.

Increasing Accountability For Evidence-Based Practice

■ **Development of practice guidelines.** A quiet revolution began in the late 1980s, fueled by an expanding volume of health services research and influential reports from the Institute of Medicine on the suboptimal quality of much of the medical care delivered in the United States.[3] Champions of evidence-based medicine contended that it was both possible and necessary to expect physicians to adhere to objective standards of care—"best practices" derived from scientific evidence—rather than only peer standards. Public and private organizations began publishing clinical practice guidelines, which were supported by most but not all physicians.[4] Some opponents viewed standardization as the antithesis of the experienced physician as hero and hence a direct attack on physician autonomy and professionalism. Others were skeptical that a meaningful fraction of clinical care could even be standardized. But the formidable challenge of staying abreast of medicine's rapidly expanding knowledge base contributed to a cultural shift that came to view compliance with standards as an important component of professionalism. Practice guidelines proliferated with growing acceptance from physicians.[5]

■ **Growing emphasis on the evidence base.** As the millennium ended, existing quality assurance tools such as board certification increasingly emphasized knowledge of the evolving evidence base. Maintenance of certification became a common requirement across specialty boards, signaling that as the science of medicine changed, physicians were expected to demonstrate their mastery of it.[6]

■ **Broadening of physician accountability.** However, practice guidelines and board certification are standards set by physician-peers. As traditionally adopted by hospitals and health plans for credentialing physicians, certification did not provide a real-time method of holding physicians accountable for quality of care. Other trends emerged, however, that promised to vastly broaden the scope of physician accountability, as government, plans, private purchasers, and accrediting bodies sought to assert influence over both quality assurance and quality improvement.

Standardized measurement of quality performance allowed benchmarking to give physicians private feedback, linkage of performance to financial and other incentives through pay-for-performance (P4P) models, and public reporting of providers' performance.[7] Performance measurement and incentive programs for physicians are less well developed than those for institutional providers and have similar limitations because they capture only specific aspects of care for a limited subset of conditions and physicians. But such programs have gained momentum in the past few years, particularly with the introduction of quality-reporting initiatives by professional organizations, accrediting agencies, and Medicare.[8] And they contribute to physicians' acknowledgement that other stakeholders have the right to monitor their behavior and hold them accountable.[9]

Limited Reorganization For More-Efficient Care Delivery

Although physicians have become more responsive to expectations for evidence-based care, there hasn't been as dramatic an evolution in how physicians organize their practices to support the delivery of higher-quality care. Traditionally, most office-based physicians worked in solo or small group practices. During the height of tightly managed care, physicians started to coalesce into larger multispecialty groups and independent practice associations (IPAs) in hopes of reaping the referral benefits of having PCPs and achieving a scale that might keep financial risks of capitation manageable. In 1996, only 15.6 percent of clinically active physicians practiced in groups of more than ten physicians. By 1999, 18.5 percent did so.[10] At the same time, hospitals formed tighter affiliations with physicians, such as in physician-hospital organizations (PHOs), to steer referrals.

■ **Fading capitation; increasing practice costs.** The loosening of managed care in the late 1990s brought the fading of capitation as a viable payment methodology in most markets. At the same time, physicians faced increasing practice costs that were not matched by trends in payment rates. Physicians, particularly certain specialists, began responding more directly to the financial incentives under fee-for-service (FFS) payment, which unintentionally favors technology-dependent proce-

dures over cognitive services and which makes affiliation with PCPs less attractive, as specialists would have to subsidize relatively low primary care payments.

■ **Reorganization to reap higher payments.** Despite mounting evidence that large multispecialty groups are better able than smaller or less integrated practices to collect quality data and implement quality improvement, this model remains out of favor in most local markets.[11] One obstacle to performance measurement and incentive programs' having an impact remains the fragmented nature of U.S. care delivery systems.[12] Specialists have recently migrated into mid-size, single-specialty groups, not to reap the quality advantages but to negotiate higher payments, concentrate capital, and provide services that garner higher profit margins. On the other hand, the number of solo or two-person practices has been in steady decline over the past decade: The percentage of physicians in these settings dropped from 40.7 percent in 1996 to 32.5 percent in 2004.[13]

■ **Potential PCP shortages.** Simultaneously, disturbing trends have emerged in the PCP workforce. Although there has only been a slight decline in the overall proportion of physicians who are primary care generalists (39.8 percent in 2000–01 to 36.7 percent in 2004–05), the decline has been mitigated by an increase in the proportion of women, who are more likely to choose primary care, entering medical practice.[14] If the entry of women represents a one-time shift, then future shortages might arise as relatively low incomes for PCPs make these career paths unattractive to new physicians. Among recent medical school graduates, a falling number choose to train in primary care specialties, although foreign medical graduates (FMGs) are compensating for the shortfall for the time being.[15] As generalists are best positioned to provide care coordination and comprehensive care for patients with multiple chronic conditions, policy goals of improving quality and efficiency will likely collide with these workforce and practice organization trends.

■ **Some positive countertrends.** On the other hand, some positive trends in the organization of physician care are worth noting. First, there appears to be a generational shift occurring in practice preferences. Younger physicians are more likely than older physicians to favor larger-group or institutional practice and to choose salaried employment, which could mute the effects of FFS financial incentives.[16]

Second, a slowly growing number of physicians are investing in electronic medical records (EMRs) and other health IT, which may support improvement in specific aspects of care by providing physicians with real-time access to data and clinical decision-support tools.[17] Health IT also can facilitate the performance measurement, improvement, and reporting efforts noted above. But large practices have been the most likely to adopt these new tools. This suggests that, short of government or accreditation mandates, widespread adoption will occur only when physician organizations broadly come to believe that it will efficiently support how they actually work; that is, when most of them practice in large networks that have adequate capital and can both make unified decisions regarding the investment in and optimal use of the integrative potential of the technology.

Finally, hospitalists (specialists who practice only inside the hospital, seeing patients referred there by other doctors) have grown in number and in the proportion of inpatient care that they provide.[18] Hospitalists have the potential to improve inpatient care delivery—in their focused clinical expertise, ability to quickly respond to problems, and the roles they can play in improving quality of care in hospitals. However, it remains to be seen whether use of hospitalists disrupts primary care relationships and traditional relationships between specialists and PCPs sufficiently to impair coordination of care.

Greater Physician Responsiveness To Financial Incentives

These trends in how care is organized among traditionally office-based physicians have been driven in large part by the financial incentives that physicians face, which have long been distorted. We are not referring to the well-known incentives under FFS to provide too many services, or those under capitation to provide too few. Rather, within FFS, which accounts for most physician payment, physicians find differing financial rewards by types of services. We call this a distortion because we believe that within a payment system such as FFS that does not make a priori assumptions about the relative clinical value of different services, payers should avoid making some services more profitable than others. In Medicare, for example, the original legislation specified that the program should not influence medical practice—just pay for it.

But such distortions are the unfortunate reality.[19] Procedures tend to be paid for better than cognitive services, and newer procedures tend to be paid for better than older ones. And in many cases, rewards for the technical portion of a service that pays for nurses, technicians, equipment, and supplies are greater than rewards for the professional portion that pays for the physician's time and effort.

■ **Growth of physician-owned specialty centers.** These distortions in payment are long-standing, but observations over the past six to seven years from the Community Tracking Study (CTS) site visits suggest that physicians are responding more to these distortions than in the past. The growth in physician entrepreneurship has been well documented.[20] Attributing the change to constraints on physicians' incomes from professional services, numerous respondents from hospitals, health plans, and physician organizations have described how the allure of profitable services has led to increased physician ownership of ambulatory surgical, imaging, and endoscopy centers and other freestanding facilities such as specialty hospitals. For example, the number of cardiac and orthopedic specialty hospitals serving Medicare patients grew from twenty-one in 1998 to sixty-seven in 2003, the majority of which were for-profit and owned in part by physicians.[21] The number of ambulatory surgery centers (ASCs) grew more than 35 percent between 2000 and 2004, with 83 percent of existing centers partly or wholly owned by physicians.[22] In addition, physicians have brought the capacity for more diagnostic and therapeutic procedures into their practices. This has been a major motivation for the formation of

larger single-specialty practices to achieve the scale needed to make these investments economically feasible. Changes in capital markets, such as greater availability of leasing, made it easier and less expensive for physicians to finance facilities and equipment. Equipment manufacturers have likely also responded by designing smaller models more suited to lower-volume operation.

The direction of any impact on the technical quality of these services is hard to predict. Quality could benefit from less bureaucratic organization and the ability of physician-owners to provide good quality. On the other hand, many practices may lack the resources or capabilities to assure high technical quality, even as they are less subject to external review than hospitals are. Stepped-up regulation of labs in physicians' offices in 1988 led many to close instead of changing their processes and infrastructure to meet higher standards.[23]

■ **Avoidance of undervalued services.** The flip side of physicians' responsiveness to financial incentives is their avoidance of providing services they perceive as undervalued. We've noted the decreasing attractiveness of primary care careers. There also has been a steady decline in the proportion of physicians willing to care for Medicaid and uninsured patients, in part because of low payment rates. Care for these patients is increasingly concentrated, with the quarter of physicians deriving the greatest proportion of their revenues from Medicaid now accounting for 51.0 percent of all Medicaid physician revenues, compared with 43.1 percent in 1996.[24] Physicians are also shedding some traditional responsibilities. A growing number avoid emergency department and other call duties at general hospitals or demand extra pay to take call, in part because of the time they lose to bill for a higher volume of outpatient visits. Because they can now perform most procedures in freestanding facilities, some types of proceduralists (such as surgeons or cardiologists) have less need for workshops in general hospitals than in the past and so consider themselves less tethered to hospital service activities.[25]

■ **No payment for coordination of care.** Finally, outside of capitation arrangements, most current payment models not only undervalue cognitive services relative to procedures but also fail to pay at all for some types of desirable services. As patients live longer with more comorbid conditions, physicians face greater burdens for integrating their medical management. Yet many activities related to care coordination do not qualify for FFS payment, particularly those such as communication with patients and their families that occur outside of care encounters.[26]

Extrapolation Of Recent Trends To The Future

■ **Health spending.** What will the delivery system look like if these trends continue? Many of the developments described will lead to rising health care spending. As physicians expand ownership of facilities providing diagnostic and therapeutic services, a higher percentage of spending will become subject to the influence of self-referral incentives.[27] Physician self-referral leads to much higher referral rates and may reflect services that either have small clinical benefit or are harmful, on bal-

ance. Greater capacity to provide ancillary services is also likely to lead to increased service use, through greater convenience for patients and productivity for physicians, as will the shift in the physician workforce toward specialization.[28]

Some effects from continuing trends could slow growth in health spending. Growth of outpatient facilities will allow insurers to negotiate lower unit prices (as a result of additional capacity and because freestanding facilities have lower overhead costs than hospitals have)—something we see now in CTS site visits. As benefit structures change, consumers may face more incentives to choose facilities with lower negotiated prices, such as freestanding facilities, rather than hospital outpatient departments. Cost sharing may lead some patients to resist recommendations for additional services or demand them less often. But some analysts believe that the trend toward higher patient cost sharing has peaked, along with any spending reductions associated with it. Insurers are likely to increase use of administrative controls to address what they perceive as overuse of services such as imaging. Some now also require authorization for procedures such as joint replacements. Current data are not definitive on the net impact on spending trends. We nevertheless expect an increase because it seems unlikely that limitations by insurers on use of services—constrained by the backlash against managed care—and acceptable increases in patient cost sharing will be a match for the powerful countervailing incentives that physicians face.

■ **Decline of smallest practices.** The smallest practices have been declining in favor of larger group practices and physician employment, and these trends may accelerate. In particular, market forces may once again favor the development of large, multispecialty practices, primarily because of the greater leverage they can exert in negotiating private payment. The rewards from P4P programs, benefit structures such as high-performance networks that favor more-efficient practices, and increasing price and quality transparency could all cause the relative earnings of physicians in large practices to rise, to the extent that these practices deliver higher-quality, more-efficient care. To the extent that larger practices gain market share on the basis of quality and cost performance (for example, by investing in health IT), this change will be a positive one. Physicians' ability to earn higher incomes with perhaps lower productivity pressures in large practices than in smaller ones will lead more physicians, especially those just entering practice, to opt for larger and better-organized practices.

■ **Fewer well-trained PCPs.** The declining attractiveness of primary care has already led to declining enrollment in primary care residencies. The recent growth of retail clinics in pharmacies and supermarkets, which tend to be staffed by nurse practitioners, is a market response to constraints on primary care access. This could lead to a substitution in primary care of personnel who require less training than physicians. But if the services provided by so-called minute clinics turn out to be more profitable per unit of time than other primary care activities, this trend could further discourage physicians from entering primary care.

■ **Higher incomes to PCPs.** To the degree that PCPs are key to caring for patients with chronic diseases, large multispecialty practices and hospitals may seek a higher proportion of PCPs by offering higher incomes. This incentive would be in addition to the long-standing strategy among multispecialty practices to pay PCPs more than they typically earn in independent practice because of the specialty referrals they can generate. This would be a market response to an error in an administered pricing system—Medicare, Medicaid, and private insurers artificially pay too little for primary care services, so organizations that perceive the higher value of primary care might attract generalists by paying them more.

■ **Less access for the poor.** More disturbingly, current trends in the delivery of physician services may contribute to an increasingly tiered delivery system.[29] Physician-owned facilities are less likely than general hospitals to serve Medicaid beneficiaries or the uninsured.[30] The increasing prevalence of physicians opting to drop contracts with insurers to receive higher out-of-network payments from patients will contribute further to disparities in access to providers.[31] And to the extent that spending on physician services contributes to rising costs, this will exacerbate the decline in employer-based coverage and growth in patient cost sharing, both of which disproportionately affect low-income people. More generally, greater competition from physicians for profitable services may hurt general hospitals financially, leading these hospitals to cut back on unprofitable services such as charity care that traditionally have been cross-subsidized by well-paid-for services.

How Public Policymakers Might Intervene

Against that gloomy scenario, we discuss here the steps that policymakers could take to encourage more ideal models for delivery of physician services. Many opportunities for policymakers to influence physician practice come through Medicare's role as the single largest purchaser and source of revenue for most physicians. Even the most innovative private payers would find it challenging to spur large-scale changes in physicians' behavior without parallel action by Medicare.

■ **Reexamine Medicare regulation.** Starting with options most feasible in the short term, policymakers could make targeted strikes at some undesirable behavior—for example, by reexamining regulatory and administrative rules within Medicare. In particular, expansions and more-stringent enforcement of laws against physician self-referral, and higher standards for the credentialing of providers, could help curb services with the highest volume growth, such as diagnostic testing.

■ **Restructure physician payment.** Given rapid growth in Medicare spending resulting from the rising volume of physician services, there is fiscal pressure on policymakers to further lower payments to physicians.[32] Despite adjustments that Congress has made to forestall cuts in Medicare payments dictated by the Sustainable Growth Rate (SGR) formula, payments have not kept pace with rising practice costs and so have effectively decreased. However, continued use of such a blunt tool (whether applied as a single cap on all physician services or as separate caps on indi-

vidual categories of services) would do little to discourage unnecessary services, encourage desirable ones, or fully address the payment disparities across different specialties. The incentives in FFS payments also dwarf rewards in existing P4P initiatives. Within the FFS context, policymakers would at least need to improve the accuracy of relative payment rates in Medicare to reflect the costs of providing specific services using more up-to-date cost data, and to remove the inadvertent incentives for physicians to favor certain services.[33] And they might consider payment for services that are not now paid for, such as care coordination, although defining measurable units of such services remains challenging.[34]

A more fundamental change in payment policy would be to transition out of a FFS structure to a greater reliance on per episode or capitated payment incentives.[35] As an initial step, policymakers could maintain FFS payment but reward or penalize physicians based on spending for their patients during typical care episodes or for a chronic condition during a period of time. The technical tools for doing so, such as software that compares physicians on cost performance for specific types of care episodes, grow increasingly sophisticated, and experience with their application in the private sector makes this increasingly feasible for Medicare, especially because rewards or penalties pose much less risk for practices than actual per episode payment does.[36] Experience with "softer" versions of per episode payment could lead to greater readiness in the future for more powerful versions.

Ultimately, however, FFS will never be optimal for achieving society's quality and cost goals, because of the underlying incentives to deliver more services and to ignore the costs of services delivered by other providers.[37] In contrast, relatively newer problems with FFS payment concern care for the growing number of patients with chronic illnesses, because there are too many important services that are not and cannot be paid for under such a structure. Services that need tailoring to individual patients (for example, education on disease self-management) would be difficult to specify meaningfully, as would services related to care coordination that involve multiple staff or occur outside of office visits, such as communicating with other providers.

To support physicians in providing such critical care functions, payers might create payment structures that encourage physicians to address patients' comprehensive, longitudinal care needs instead of responding to fees on a service-by-service basis. Payers have many options for administering such models, such as capitation, but a core element is payment for the care of a whole patient, or at least for care of a particular condition, per unit of time, which would include specific services as well as chronic disease management and coordination of care. As originally designed, Medicare payment to physicians for care of patients with end-stage renal disease is an example of how capitated payments can support care for a chronic condition. Set with sophisticated adjustments for health status and other important patient characteristics such as socioeconomic status, such payments could be expanded to other common chronic conditions, to signal that payers

value comprehensive care rather than service quantity.

■ **Develop integrated care networks.** But even ideal payment structures will have desired effects only if care is organized to enable physicians to respond appropriately to new financial incentives. A payer who offers bundled payments for chronic care to a lone PCP in solo practice will likely be disappointed, because that physician's ability to influence the care delivered by other providers would be severely limited. Thus, in the long term, the ideal payment policy would foster the development of integrated care networks that allow physicians to more seamlessly coordinate care. The more concrete the professional, financial, and legal connections among physicians within these structures, the more potential they would have to align incentives and infrastructure to produce high-quality, coordinated care.

■ **Use of the "medical home" concept.** The concept of the "medical home" has reemerged since its introduction by the American Academy of Pediatrics nearly two decades ago.[38] As currently conceptualized, it would consist of one or more physicians in a single practice site meeting certain infrastructure criteria, who would be prospectively given responsibility for coordinating comprehensive care for a given patient and receive payment for doing so.[39] But the model will have limited potential to transform care delivery if payers do not find ways to also offer explicit incentives for the many providers outside of the medical home to participate in care coordination for the same patients.

If the medical home is not ideal, it might serve as a useful starting point for payers to envision the practice structure that could best perform the functions they hope to purchase. This structure might be a large multidisciplinary group of providers who can deliver comprehensive care, one with stable relationships with a narrow referral network of other providers (such as hospitals) whom they have selected on the basis of quality and cost performance and who are integrated in culture and by care processes and health IT, with the expertise and ability to measure, report, and be held accountable for the quality and cost of that care. Guided by this vision, purchasers such as Medicare might offer premium payments to physicians who already work in, or are willing to organize into, and contract directly as such entities to receive bundled payments for care of specific patients. If physicians continue to exhibit the rational responses to financial incentives evident in recent trends, then under such circumstances, less well-organized physicians would have a strong motivation to change their practice organization.

This would require a true commitment to press for long-term cultural shifts and certainly has potential pitfalls. Areas with fragmented physician markets will be at an initial disadvantage, and large provider organizations may well see their local market leverage grow along with their size. Those negative consequences could be overcome or mitigated if change were led on a national level by Medicare and followed by other payers, but perhaps not under the governance of Medicare as configured today, which seems designed to entitle all providers to income from the program regardless of their performance.[40] Regulatory risk and community

backlash would also continue to restrain large organizations. But consistently and explicitly encouraging desirable types of delivery systems could accelerate the most positive, naturally occurring trends in physician markets and send an unequivocal signal that payers intend to correct current, unhealthy trends in how physicians practice medicine.

This work was funded by the Robert Wood Johnson Foundation.

NOTES

1. P. Starr, *The Social Transformation of American Medicine* (New York: Basic Books, 1982).
2. K. Smithson and S. Baker, "Medical Staff Organizations: A Persistent Anomaly," *Health Affairs* 26, no. 1 (2007): w76–w79 (published online 5 December 2006; 10.1377/hlthaff.26.1.w76).
3. Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the Twenty-first Century* (Washington: National Academies Press, 2001); and L.T. Kohn, J.M. Corrigan, and M.S. Donaldson, eds., *To Err Is Human: Building a Safer Health System* (Washington: National Academies Press, 1999).
4. J. Frank, "The Non-Surgical Management of Acute Low Back Pain: Cutting through the AHCPR Guidelines" (Book Review), *New England Journal of Medicine* 339, no. 7 (1998): 484.
5. See the National Guideline Clearinghouse home page, http://www.guidelines.gov; and A.S. O'Malley, H.H. Pham, and J.D. Reschovsky, "Predictors of the Growing Influence of Clinical Practice Guidelines," *Journal of General Internal Medicine* 22, no. 6 (2007): 742–748.
6. American Board of Internal Medicine, *Requirements and Policies for Maintaining (Renewing) Your Certification*, 2004, http://www.abim.org/moc/maintenance.shtm (accessed 31 July 2007).
7. See, for example, National Committee for Quality Assurance, "Report Cards: Choosing Quality Health Care," 2007, http://web.ncqa.org/tabid/60/Default.aspx (accessed 31 July 2007); National Quality Forum, "How NQF Endorses Standards," 2006, http://www.qualityforum.org/about/endorse.asp (accessed 31 July 2007); and Integrated Healthcare Association, *Advancing Quality through Collaboration: The California Pay for Performance Program*, February 2006, http://www.iha.org/wp020606.pdf (accessed 31 July 2007).
8. ABIM, "Requirements and Policies"; Centers for Medicare and Medicaid Services, "Medicare 'Pay for Performance (P4P)' Initiatives," Press Release, 31 January 2005, http://www.cms.hhs.gov/media/press/release.asp?Counter=1343 (accessed 31 July 2007); and CMS, "Physician Quality Reporting Initiative," http://www.cms.hhs.gov/PQRI (accessed 31 July 2007).
9. L.P. Casalino et al., "General Internists' Views on Pay-for-Performance and Public Reporting of Quality Scores: A National Survey," *Health Affairs* 26, no. 2 (2007): 492–499.
10. L.P. Casalino et al., "Benefits of and Barriers to Large Medical Group Practice in the United States," *Archives of Internal Medicine* 163, no. 16 (2003): 1958–1964.
11. A.M. Audet et al., "Measure, Learn, and Improve: Physicians' Involvement in Quality Improvement," *Health Affairs* 24, no. 3 (2005): 843–853; and A. Mehrotra, A.M. Epstein, and M.B. Rosenthal, "Do Integrated Medical Groups Provide Higher-Quality Medical Care than Individual Practice Associations?" *Annals of Internal Medicine* 145, no. 11 (2006): 826–833.
12. H.H. Pham et al., "Care Patterns in Medicare and Their Implications for Pay for Performance," *New England Journal of Medicine* 356, no. 11 (2007): 1130–1139.
13. A. Lieberhaber and J.M. Grossman, "Physicians Moving to Mid-Sized Single-Specialty Practices," Tracking Report no. 18 (Washington: HSC, August 2007); and L.P. Casalino, H. Pham, and G. Bazzoli, "Growth of Single-Specialty Medical Groups," *Health Affairs* 23, no. 2 (2004): 82–90.
14. H. Tu and A.S. O'Malley, "Exodus of Male Physicians from Primary Care Drives Shift to Specialty Practice," Tracking Report no. 17 (Washington: HSC, July 2007).
15. S.E. Brotherton, P.H. Rockey, and S.I. Etzel, "U.S. Graduate Medical Education, 2004–2005: Trends in Primary Care Specialties," *Journal of the American Medical Association* 294, no. 9 (2005): 1075–1082.
16. D. Blumenthal, "New Steam from an Old Cauldron—The Physician-Supply Debate," *New England Journal of Medicine* 350, no. 17 (2004): 1780–1787.
17. J.M. Grossman and M.C. Reed, "Clinical Information Technology Gaps Persist among Physicians," Issue Brief no. 106 (Washington: HSC, November 2006); and D. Blumenthal et al., *Health Information Technology in*

the United States: The Information Base for Progress (Princeton, N.J.: Robert Wood Johnson Foundation, 2006).

18. H.H. Pham et al., "Health Care Market Trends and the Evolution of Hospitalist Use and Roles," *Journal of General Internal Medicine* 20, no. 2 (2005): 101–107.
19. P.B. Ginsburg and J.M. Grossman, "When the Price Isn't Right: How Inadvertent Payment Incentives Drive Medical Care," *Health Affairs* 24 (2005): w376–w384 (published online 9 August 2005; 10.1377/hlthaff.w5.376).
20. H.H. Pham et al., "Financial Pressures Spur Physician Entrepreneurialism," *Health Affairs* 23, no. 2 (2004): 70–81.
21. CMS, *Study of Physician-Owned Specialty Hospitals Required in Section 507(c)(2) of the Medicare Modernization Act of 2003* (Baltimore: CMS, 2005); and GAO, *Specialty Hospitals: Information on National Market Share, Physician Ownership, and Patients Served*, Pub. no. GAO-03-683R (Washington: GAO, 18 April 2003).
22. American Hospital Association, "The Migration of Care to Non-Hospital Settings: Have Regulatory Structures Kept Pace with Changes in Care Delivery?" Trendwatch, July 2006, http://www.aha.org/aha/trendwatch/2006/twjuly2006migration.pdf (accessed 1 August 2007).
23. CMS, "Clinical Laboratory Improvement Amendments (CLIA)," 18 December 2006, http://www.cms.hhs.gov/CLIA (accessed 31 July 2007).
24. P. Cunningham and J. May, "Medicaid Patients Increasingly Concentrated among Physicians," Tracking Report no. 16 (Washington: HSC, August 2006).
25. R.E. Hurley, H.H. Pham, and G. Claxton, "A Widening Rift in Access and Quality: Growing Evidence of Economic Disparities," *Health Affairs* 24 (2005): w566–w576 (published online 6 December 2005; 10.1377/hlthaff.w5.566).
26. E.A. Coleman and R.A. Berenson, "Lost in Transition: Challenges and Opportunities for Improving the Quality of Transitional Care," *Annals of Internal Medicine* 141, no. 7 (2004): 533–536.
27. J.M. Mitchell, "The Prevalence of Physician Self-Referral Arrangements after Stark II: Evidence from Advanced Diagnostic Imaging," *Health Affairs* 26, no. 3 (2007): w415–w424 (published online 17 April 2007; 10.1377/hlthaff.26.3.w415).
28. W.P. Welch et al., "Geographic Variation in Expenditures for Physicians' Services in the United States," *New England Journal of Medicine* 328, no. 9 (1993): 621–627.
29. Hurley et al., "A Widening Rift."
30. GAO, *Specialty Hospitals: Geographic Location, Services Provided, and Financial Performance*, Pub. no. GAO-04-167 (Washington: GAO, April 2003).
31. Cunningham and May, "Medicaid Patients."
32. Medicare Payment Advisory Commission, *Report to the Congress: Assessing Alternatives to the Sustainable Growth Rate System* (Washington: MedPAC, March 2007).
33. U.S. Congress, S. 1932.ENR., *Deficit Reduction Act of 2005*, "Adjustments in Payment for Imaging Services," Section 5102.
34. American College of Physicians, "A System in Need of Change: Restructuring Payment Policies to Support Patient-Centered Care," http://www.acponline.org/hpp/statehcc07_5.pdf (accessed 31 July 2007).
35. A.H. Goroll et al., "Fundamental Reform of Payment for Adult Primary Care: Comprehensive Payment for Comprehensive Care," *Journal of General Internal Medicine* 22, no. 3 (2007): 410–415.
36. J.W. Thomas and K. Ward, "Economic Profiling of Physician Specialists: Use of Outlier Treatment and Episode Attribution Rules," *Inquiry* 43, no. 3 (2006): 271–282.
37. H.H. Pham et al., "Redesigning Care Delivery in Response to a High-Performance Network: The Virginia Mason Medical Center," *Health Affairs* 26, no. 4 (2007): w532–w544 (published online 10 July 2007; 10.1377/hlthaff.26.4.w532).
38. American Academy of Pediatrics Ad Hoc Task Force on Definition of the Medical Home, "The Medical Home," *Pediatrics* 90, no. 5 (1992): 774.
39. American College of Physicians, *The Advanced Medical Home: A Patient-Centered, Physician-Guided Model of Health Care*, 2006, http://www.acponline.org/hpp/adv_med.pdf (accessed 6 July 2007).
40. K.M. King et al., eds., *Matching Problems with Solutions: Improving Medicare's Governance and Management* (Washington: National Academy of Social Insurance, July 2002).