

Defining the Future of Primary Care: What Can We Learn from Patients?

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From the earliest definitions of the term *primary care* to the most recent, all have stressed that primary care is predicated on a sustained relationship between patients and the clinicians who care for them. Primary care differentiates itself from other areas of medicine by attending to the whole person, in the context of the patient's personal and medical history and life circumstances, rather than focusing on a particular disease, organ, or system. Finally, the primary care physician plays a distinctive role in integrating the care that patients receive from within and outside of the primary care setting.

Data obtained from patients over the past 15 years demonstrate that most Americans have a physician whom they consider to be their primary physician. This was the case well before the rules of managed care plans required patients to align themselves with a particular primary care physician and to allow that physician to coordinate all of their medical care. However, information

from patients indicates that despite primary care relationships that endure over several years, the ideals of whole-person, integrated care are largely unmet in patients' primary care experiences. Moreover, considerable evidence indicates that the quality of primary care relationships has eroded over the past several years.

This article highlights the relative strengths and weaknesses of primary care, as experienced and reported by patients, and posits three areas that must be addressed for primary care to live up to the ideals of sustained partnerships providing whole-person, integrated care. These three areas involve the use of teams in medicine, the establishment of meaningful primary care partnerships, and integration of care in a delivery system that patients experience as increasingly fragmented.

Ann Intern Med. 2003;138:248-255.

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From the earliest definitions of the term *primary care* to the most recent, all have stressed that primary care is predicated on a sustained relationship between patients and the clinicians who care for them (1–5). Most definitions have indicated that the primary care provider can be a single clinician or team and have not delineated particular clinical disciplines to which primary care belongs. Beyond the requirement for sustained clinician–patient relationships, primary care has been defined to encompass the following essential elements: accessibility, continuity, integration, a whole-person orientation, comprehensiveness, and clinical management (1–5). Drawing on information obtained from adults nationwide, I examine the status of primary care relationships in the United States, identify key strengths and limitations as experienced and reported by patients, and propose possible directions for improving performance and outcomes in primary care.

THE STATUS OF PRIMARY CARE RELATIONSHIPS IN THE UNITED STATES: WHAT PATIENTS TELL US Having a Primary Physician

No administrative data systems track the percentage of Americans with a primary care provider. However, numerous national surveys suggest that most Americans have a primary care provider, and that most consider their primary care provider to be a particular named physician, not a site or group. Moreover, despite marked changes in U.S. health care systems over the past two decades—in particular, the emergence of managed care arrangements that emphasize the role of the primary care physician—the percentage of Americans who report having a regular source of care has changed little. In 1975, when the concept of primary care was first being formalized in the United States,

88% of adults reported having a “regular source” of care: Seventy-eighty percent named a particular physician and 10% considered an institution or several physicians to fulfill this role (6). In 1987, the National Medical Expenditure Survey reported that 82% of Americans had a “usual source of care” (7). In 1994, 80% of adults completing the General Social Survey (8), which was administered to a national probability sample of U.S. households, reported having a particular physician whom they considered to be their “regular personal doctor.” And in the 1996 Medical Expenditure Panel Survey, administered to a national probability sample of U.S. households, 77% of Americans reported having a “usual primary care provider” (9). The Medical Expenditure Panel Survey may have underestimated this figure somewhat owing to the criteria it applies. The Medical Expenditure Panel Survey defines *usual primary care provider* as a particular health professional or site to which the patient goes under each of four circumstances, including “to obtain a referral to other health professionals.” Approximately half of insured Americans have coverage that does not require referrals for specialty care (10–14).

With regard to clinical specialty, available data suggest that the majority of Americans rely on generalist physicians for their primary care but that a substantial minority rely on specialists (6, 15, 16). No national estimates are available of the percentage of Americans who view a nurse practitioner or other nonphysician as their primary care provider.

Primary Care Experiences Reported by Patients from 1986 to 2000

With this picture of primary care arrangements in the United States, and the understanding that these arrange-

Table 1. Patients' Views of How Much Their Primary Care Physician Knows about Their Medical History and Life Circumstances*

Physician's Knowledge of:	General Adult Population (n = 6094)†		Adults ≥65 Years of Age (n = 8828)‡	
	Excellent or Very Good	Good, Fair, Poor, or Very Poor	Excellent or Very Good	Good, Fair, Poor, or Very Poor
	← % →			
Your entire medical history	51	49	54	46
Your responsibilities at home or work	34	55	40	60
What worries you most about your health	36	64	44	56
You as a person (your values and beliefs)	29	71	39	61

* Items represent the Primary Care Assessment Survey measure of the primary physician's "whole-person knowledge" of the patient (15).

† Baseline data from the Massachusetts Study of Primary Care Performance (19).

‡ Baseline data from The Study of Choice and Quality in Senior Health Care (23).

ments have been remarkably stable despite dramatic changes in the organization and financing of care, it is useful to learn about the primary care experiences reported by patients. What are the relative strengths and weaknesses of primary care from the patient's viewpoint? To what extent do patients perceive the quality of primary care to be changing? What accounts for these changes?

This article summarizes findings from two longitudinal research studies that administered the Primary Care Assessment Survey (PCAS) to U.S. adults of all ages. The Massachusetts Study of Primary Care Performance administered the PCAS in 1996 and 1999 to a longitudinal panel of adults sampled from each of 12 commercial health plans. The Study of Choice and Quality in Senior Health Care administered the PCAS annually from 1998 to 2000 to a longitudinal panel of Medicare beneficiaries sampled from the traditional (fee-for-service) Medicare program and Medicare health maintenance organizations in 13 states with high rates of managed Medicare participation (Arizona, California, Colorado, Florida, Illinois, Massachusetts, Minnesota, New Mexico, New York, Oregon, Pennsylvania, Texas, Washington). Details of the design and methods of both studies are published elsewhere (15, 17–25).

The PCAS (15) is a validated, patient-completed questionnaire that measures the defining characteristics of primary care posited by the Institute of Medicine Committee on the Future of Primary Care (2) and others (1, 3–5). The PCAS measures seven features of primary care through 11 summary scales: access (financial and organizational), continuity (relationship duration and visit-based continuity), comprehensiveness ("whole-person" knowledge of the patient and preventive risk counseling), integration of care, quality of the clinician–patient interaction (clinician–patient communication and thoroughness of physical examinations), interpersonal treatment, and patient trust (15). All concepts are measured in the context of a specific clinician–patient primary care relationship and reference the entirety of that relationship (that is, the survey is not visit-specific). The PCAS does not assess technical aspects of quality of care owing to limitations of patient-provided information about this domain (26–30).

Sustained Partnerships Providing Whole-Person Care: How Are We Doing?

The importance of sustained, whole-person oriented care from the physician's perspective is well illustrated by these quotes from a 1994 study on the definition of primary care (31).

"Well, continuous care is the notion... The whole idea is that it's not episodic around the problem. The commitment is long-term."

"It's a commitment to the patient that you are going to be there tomorrow and the next day. That what you do now is going to be building for everything you're going to be doing in the future."

"Other men and women are responsible for different parts and pieces and different areas, but there must be, there has to be, there should be one person responsible for the whole picture. Who has the ability, cognitively and emotionally, to put it all together and to put the different recommendations into a context of that patient's life."

"I think the way you get that is by really trying to understand who the patient is. And again, understanding who the patient is will be much more than just a review of the organ systems."

Despite these compelling testimonials from clinicians, patient data suggest that whole-person care is a weak link in primary care performance. Whole-person care consistently ranks lowest among five PCAS measures of interpersonal care (19, 21, 23). Except for knowledge of their medical history, only about one third of patients consider their physician's knowledge about them to be excellent or very good (Table 1). The majority of patients rate their physician's knowledge about them and their life circumstances as good, fair, poor, or very poor. This finding constitutes weak performance on a defining and distinctive feature of primary care. The result is striking in light of evidence of considerable continuity in U.S. primary care relationships. Three quarters of adults in these samples had gone to their primary physician for 3 years or more (19, 23). Moreover, the results did not vary meaningfully by patients' sociode-

mographic characteristics or health status: Only age, education, and health status were significantly associated with patients' assessment of their care, and even for these variables, the effects were small and together explained less than 5% of the variance in multivariate regression models. These findings are highly consistent with existing evidence on the relationship between patient characteristics and patient-based assessments of care (32–35).

The Performance of Primary Care Teams

Formal definitions of primary care posit that it can be provided by an individual clinician or a team (1–5). The functioning of primary care teams has important bearing on primary care physicians' ability to meet the objectives of whole-person care and sustained partnerships. Throughout the United States, practices rely substantially on teams to provide primary care. Yet, available evidence from patients reveals a large gap between the reality of team care and the ideals of "sustained clinician-patient partnerships providing care in the context of family and the community" (2).

Consider that there is a distinction between "visible" and "invisible" team care, and that most U.S. patients experience invisible team care. In *visible team care*, the members of the primary care team and their respective roles are known to and understood by the patient. In *invisible team care*, the roles and identities of the other clinicians involved in the patient's care are not clear to the patient; rather, the patient relates to these others as "not my doctor" rather than as part of a team of clinicians with whom he or she has a "sustained primary care partnership."

Among patients nationwide who report having a primary physician, approximately half report that there are other clinicians in their physician's practice who play an important role in their care (19, 23). Roughly half of patients rate both the quality of care by these other clinicians

and their coordination with the primary physician as excellent or very good (Table 2). However, interpersonal elements of team care have considerable failings. Three quarters of patients in practices that rely on teams rate the other clinicians' whole-person knowledge about them unfavorably, nearly two thirds rate the clinicians' knowledge of their medical history unfavorably, and about half rate their communication skills unfavorably (Table 2). By comparison, patients' ratings of their primary physician's whole-person knowledge about them, knowledge of their medical history, and communication skills were better ($P < 0.001$). The data suggest that although many primary care practices embrace a team approach, we are far from meeting the defining criteria of primary care through teams. Most particularly, team care is generally not meeting the criteria for "sustained partnerships" and a whole-person orientation.

The weak performance of teams may help explain the differences in performance consistently observed between open-model and closed-model primary care practices (19, 23, 36–42). *Closed-model practices* refer to those in which physicians work exclusively for one health plan on a salaried or contractual basis (staff-model and group-model health maintenance organizations). *Open-model practices* refer to those in which physicians have contracts with multiple health plans. An underlying philosophy that gave rise to today's closed-model practices is that a clinician's knowledge and technical expertise are paramount and that the quality of care is unrelated to the clinician's previous knowledge of the patient. Thus, closed-model practices have historically embraced the concept of primary care teams and use scheduling and staffing protocols accordingly. The appointment scheduling protocols of staff-model and group-model health maintenance organizations that we have studied have almost uniformly prioritized pa-

Table 2. Patients' Assessment of Care Provided by Other Clinicians in Their Primary Physician's Practice Compared with Care Provided by Their Primary Physician*

Aspect of Care	Other Clinicians on the Primary Care Team†		Primary Physician		P Value‡
	Excellent or Very Good	Good, Fair, Poor, or Very Poor	Excellent or Very Good	Good, Fair, Poor, or Very Poor	
	← % →				
Quality of care they provide	55	45	–§	–§	–
Coordination between them and your regular doctor	57	43	–§	–§	–
Their knowledge of you as a person (your values and beliefs)	24	76	29	71	0.001
Their knowledge of your medical history	36	64	54	46	0.001
Their explanations of your health problems or treatments that you need	54	46	72	28	0.001

* Except where noted, all results are from the Massachusetts Study of Primary Care Performance (19).

† Patients who reported having a regular personal doctor were asked: Are there *other* doctors or nurses who work in your regular doctor's office, who play an important role in your care? Those who answered "yes" were asked a set of questions about "these *other* doctors or nurses who play an important role in your care" (results shown here).

‡ For each item, P values compare patients' assessments of their primary care physician with their assessments of other clinicians in the practice who play an important role in their care.

§ This item was not asked with reference to the primary physician.

|| Data for this item are from The Study of Choice and Quality in Senior Health Care, 1998 (23). The item was not asked in the Massachusetts Study of Primary Care Performance.

and from a population that hungers for that. They come from an insurance system in which established primary care relationships can be disrupted by a single business decision on the part of a practice, employer, or health plan. They come from our failure to develop care that is truly integrated within and across settings over time. And they come from a population that eagerly looks to complementary therapies as well as conventional ones to achieve the health they long for. Establishing sustained clinician–patient partnerships and whole-person care in the face of these challenges will require commitment and creative solutions. Consider these possible components:

Accepting and Embracing the Role of Teams

Primary care in the 21st century requires a team of clinicians. Primary care practices nationwide rely on teams to ensure 24-hour coverage for their patients every day of the year and, in many cases, to leverage physicians’ time through the use of nurse practitioners, physician assistants, or other clinical professionals. However, for the most part, patients’ expectations and preferences have not made room for teams. Available data suggest that patients predominantly experience primary care teams as something missing rather than something gained. The experience of invisible team care can be likened to that of baseball fans during the strike of 1994. There were 34 weeks during which the usual players we knew did not play ball, yet baseball was played. It was disorienting to watch “your team” (the Boston Red Sox, in my case) play with a cast of characters whose batting averages, pitching statistics, and abilities at first base were unknown.

Creating visible team care will require two components. First, it will require communicating with patients about teams and making explicit who the “players” are and what “position” each plays. It will also require that prac-

tices develop systems to ensure that they, too, know the position played by those involved and an organizational culture that actively fosters team work. To date, the use of primary care teams has been primarily about ensuring access. But accessibility is only one of the defining criteria of primary care. We must improve performance on the features of primary care that have been shown to be lacking. Each clinician must fulfill his or her role in creating a sustained partnership with the patient. There is reason to believe that doing so will benefit patients, clinicians, practice organizations, and purchasers. Considerable empirical evidence links the performance of care teams—including their communication, coordination, and collaborative processes—to improved health care outcomes and reduced costs (52–54). And in a population that is living longer with increasing incidence and prevalence of major chronic illness, the potential for primary care teams to improve health care and health has never been greater. Anderson Rothman and Wagner underscore that primary care teams represent an ideal structure through which to address the ongoing clinical, educational, behavioral, and care coordination needs of patients with chronic illness (55). But they note that to realize this potential will require moving away from the acute care paradigm that still predominates, even where primary care teams are nominally in place (55).

Primary Care as a Contract

Another aspect of primary care that must be formalized is the requirement for sustained clinician–patient partnerships (2). As noted, most Americans report having a primary care provider (7, 9, 19, 21, 23), and most of these relationships last for years (19, 23). However, a partnership is more than a relationship that endures over time. Partnership connotes a relationship with shared objectives and defined roles and responsibilities. In other areas of society,

Table 4. Changes in Primary Care Performance Reported by Patients in Two Longitudinal Studies

Performance Measure	Massachusetts Adults, 1996–1999*		Medicare Beneficiaries from 13 U.S. States, 1998–2000†	
	Mean Change in Score‡	Effect Size§	Mean Change in Score‡	Effect Size§
Physician–patient interaction				
Communication	–1.5	0.10	–2.9	0.18
Interpersonal treatment	–2.1	0.12	–2.3	0.11
Thoroughness of physical examination	–3.0	0.17	–2.4	0.12
Physician’s knowledge of patient	1.1	0.05	3.1	0.15
Patient trust	–0.7	0.05	0.8	0.06
Structural and organizational factors				
Organizational access	–2.7	0.17	1.0	0.05
Financial access	0.5	0.02	–4.3	0.22
Visit-based continuity	1.2	0.06	–4.5	0.26
Integration of care	0.4	0.02	–1.3	0.07

* Data are from the Massachusetts Study of Primary Care Performance (n = 6018) (19).

† Data are from The Study of Choice and Quality in Senior Health Care (n = 8288) (23).

‡ For respondents who retained the same primary care physician throughout the observation period, changes in score were computed as the difference between the respondent’s score at follow-up and at baseline (time₂ – time₁). Data in the table represent the mean change in scores for each scale. With the exception of two scales (interpersonal treatment, thoroughness of physical examination), the observed change in score differed significantly between the two studies (P ≤ 0.001).

§ Computed as the absolute change in score divided by the standard deviation of the scale. This standardized metric allows comparison across scales and across studies regarding the magnitude of the change observed.

the establishment of a partnership is typically marked by a written document, verbal exchange of promises, or other means of formalizing accountabilities. There seems to be the potential for a powerful shift in primary care relationships if the moment of selecting a primary physician (and a physician agreeing to that role) is marked by something akin to a contract—defining shared objectives with regard to the patient’s health, and individual roles and responsibilities for achieving them. Such a dialogue would go beyond taking the patient’s medical history and discussing their risk profile from a list of behavioral characteristics. It would require a deliberate discussion about the patient’s principal health concerns and priorities and designing strategies to address them. In so doing, it would begin a process that could help redress some of the performance gaps with respect to whole-person care that have been observed and reported here. The issues raised during this initial physician–patient dialogue would undoubtedly extend outside the realm of that physician’s time and expertise. But the process would identify the parameters within which to operate and the other roles needed to meet that patient’s health objectives.

Integrating Care

Not long ago, it was customary for a single physician, perhaps working with a nurse, to provide most or all of a patient’s care over many years, or even a lifetime. Despite profound advances in medical knowledge, technologies, and systems and despite the fact that patient care invariably requires the involvement of multiple professionals, our ability to integrate care has made little progress. Many of the structures and processes envisioned 15 or more years ago as solutions to fragmented care are now in place. More than half of Americans are enrolled in a health plan that requires a primary physician to coordinate their care (10–14). There are integrated delivery systems (56). Acute care hospitals are now joined with rehabilitation, long-term, and home care services under various corporate, affiliative, and strategic structures (57). Yet, most would agree that care is no more integrated today than before these systems were in place (58–60). Why have these advances in our infrastructure not made a noticeable difference in integration? The answer almost certainly lies in a complex interplay among numerous factors, including misaligned financial incentives, underdeveloped information systems, and established norms and culture among clinicians and health care organizations. I will focus on the latter, as I believe that without attention to this factor, we cannot make meaningful progress toward integrating care.

Performance as an individual and performance within a group require fundamentally different skills, focus, and expertise. For a *corps de ballet* to create the magnificent effect of unison, each dancer must be keenly attentive to the group while simultaneously attending to his or her own dancing, making constant microadjustments to position, pace, and movement to ensure that the *corps* performs as a

single, powerful entity. So it is with medicine. We train health care professionals, in the classroom and at the bedside, with an almost exclusive emphasis on honing their individual knowledge and technique so that they can perform their clinical role with excellence. We are superb at teaching clinicians to be soloists in the ballet of medicine. But excellence in the performance of groups (or team) requires more than just highly skilled people functioning individually. To truly function as a team requires additional skills, and deliberate attention from each individual to the performance of the whole (53, 61, 62). Our failure to recognize and address this has kept health care fragmented in the face of profound changes in our infrastructure that we thought would yield integrated care.

CONCLUSION: WHAT IS THE FUTURE OF PRIMARY CARE FROM THE PATIENT’S PERSPECTIVE?

More than three quarters of U.S. adults indicate that there is one physician whom they consider to be their primary physician. This rate has remained remarkably stable over the past several decades, despite substantial changes in U.S. health care delivery systems. Moreover, the majority of primary care relationships endure for years. Thus, even in an era that has been dubbed consumerist with regard to health care, available data suggest that Americans value having an established, long-term relationship with a primary physician.

However, the patient data summarized here highlight several areas in which primary care performance is weak, most notably in providing care that is whole-person oriented, integrated, and grounded in clinician–patient partnerships. Despite primary care relationships that are sustained over several years, adults of all ages and from all regions of the United States report that they do not feel that their primary care physicians know much about them—their life circumstances, daily role responsibilities, or values. Moreover, despite the reliance on teams in primary care practices nationwide, patients experience the other clinicians in their physician’s practice as a bewildering array of clinicians who are “not my doctor.” We are far from the ideal of primary care that is whole-person oriented, and we appear to be losing ground. Data from both studies summarized here reveal significant erosion in the quality of the primary care relationship between 1996 and 2000.

Without our focused efforts, the task of ensuring that primary care is whole-person oriented, integrated, and grounded in sustained partnerships will grow more difficult in the United States, where the health care system is becoming increasingly complex, practices are increasingly strained for time and resources, and the population has ready access to a bewildering array of information promising their desired health outcomes. I believe that three elements are essential to securing the future of primary care in the face of these challenges: adapting the current function-

ing of primary care teams so that they become visible, meaningful, and valued from the patient's perspective; formalizing primary care partnerships; and integrating care in the face of formidable barriers.

The onset of consumerism in American health care should not be taken to mean that patients wish to command their own health care, or that they think they can. Americans have a seemingly insatiable appetite for information about how to get healthier, feel better, and live longer. Many are willing to combine conventional and nonconventional therapies to achieve this goal. But they are also overwhelmed and bewildered by conflicting information and boundless choices, with little means of determining the safety or quality of the therapies or clinicians they choose. They need and want an expert to work with them in making these choices. A critical role remains for the professionals who will serve as patients' partners in this realm of health, well-being, and care that profoundly affects the quality of their lives. From the patient's perspective, the future of primary care is a certainty. How it will be configured and whether it will ultimately deliver on its potential is not.

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Acknowledgments: The author thanks Angela Li for dedicated assistance in the preparation of this article and Hong Chang, PhD, for analytic support.

Grant Support: The Massachusetts Study of Primary Care Performance and the Study of Choice and Quality in Senior Health Care was supported by grant R01 HS08841 from the Agency for Healthcare Research and Quality and grant 035321 from the Robert Wood Johnson Foundation. The Study of Choice and Quality in Senior Health Care was supported by grant R01 HS09622 from the Agency for Healthcare Research and Quality and the National Institute on Aging. A previous version of this article was commissioned by the Robert Wood Johnson Foundation for the Future of Primary Care Conference (held in Glen Cove, New York, October 2001).

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References

1. Institute of Medicine. Report of a Study: A Manpower Policy for Primary Health Care. Washington, DC: National Academy of Sciences; 1978.
2. Institute of Medicine. Primary Care: America's Health in a New Era. Washington, DC: National Academy Pr; 1996.
3. Millis JS. The Millis Commission Report. Chicago: American Medical Assoc; 1966.
4. Alpert J, Charney E. The education of physicians for primary care. Washington, DC: U.S. Department of Health, Education, and Welfare; 1973.
5. Starfield B. Primary Care: Concept, Evaluation and Policy. New York: Oxford Univ Pr; 1992.
6. Aiken LH, Lewis CE, Craig J, Mendenhall RC, Blendon RJ, Rogers DE. The contribution of specialists to the delivery of primary care. N Engl J Med. 1979;300:1363-70. [PMID: 440359]

7. Agency for Health Care Policy and Research and Center for Cost and Financing Studies. 1987 NMES Household Survey and Health Insurance Plans Survey Data (CD-ROM). Rockville, MD: Agency for Health Care Policy and Research; 1998. Publication no. AHCPR 98-DP02.
8. Davis JA, Smith TW. The NORC General Social Survey: A User's Guide. Newbury Park, CA: Sage Publications; 1992.
9. Weinick RM, Drilea SK. Usual sources of health care and barriers to care, 1996. Stat Bull Metrop Insur Co. 1998;79:11-7. [PMID: 9476309]
10. Health Care Financing Administration. Managed Care Trends. Medicaid Statistics and Data. Accessed at www.hcfa.gov/medicaid/trends00.pdf on 8 July 2002.
11. Health Care Financing Administration. Medicare 2000: 35 Years of Improving Americans' Health and Security. 14-15. Rockville, MD: Health Care Financing Administration; 2001. Medicare: A Profile.
12. Health Care Financing Administration. National Breakout of Managed Care Entities. Medicaid Statistics and Data. Accessed at www.hcfa.gov/medicaid/plansum0.pdf on 8 July 2002.
13. American Association of Health Plans. Health Plans and Employer-Sponsored Plans. Washington, DC: American Assoc of Health Plans; 1999.
14. Gabel J, Levitt L, Pickreign J, Whitmore H, Holve E, Rowland D, et al. Job-based health insurance in 2001: inflation hits double digits, managed care retreats. Health Aff (Millwood). 2001;20:180-6. [PMID: 11558701]
15. Safran DG, Kosinski M, Tarlov AR, Rogers WH, Taira DH, Lieberman N, et al. The Primary Care Assessment Survey: tests of data quality and measurement performance. Med Care. 1998;36:728-39. [PMID: 9596063]
16. Rosenblatt RA, Hart LG, Baldwin LM, Chan L, Schneeweiss R. The generalist role of specialty physicians: is there a hidden system of primary care? JAMA. 1998;279:1364-70. [PMID: 9582044]
17. Taira DA, Safran DG, Seto TB, Rogers WH, Tarlov AR. The relationship between patient income and physician discussion of health risk behaviors. JAMA. 1997;278:1412-7. [PMID: 9355999]
18. Safran DG, Rogers WH, Tarlov AR, Inui T, Taira DA, Montgomery JE, et al. Organizational and financial characteristics of health plans: are they related to primary care performance? Arch Intern Med. 2000;160:69-76. [PMID: 10632307]
19. Safran DG, Rogers WH, Tarlov AR, Inui T, Taira DA, Montgomery JE, et al. Organizational and financial characteristics of health plans: are they related to primary care performance? Arch Intern Med. 2000;160:69-76. [PMID: 10632307]
20. Murray A, Safran DG, Rogers WH, Inui T, Chang H, Montgomery JE. Part-time physicians. Physician workload and patient-based assessments of primary care performance. Arch Fam Med. 2000;9:327-32. [PMID: 10776360]
21. Murphy J, Chang H, Montgomery JE, Rogers WH, Safran DG. The quality of physician-patient relationships. Patients' experiences 1996-1999. J Fam Pract. 2001;50:123-9. [PMID: 11219559]
22. Safran DG, Montgomery JE, Chang H, Murphy J, Rogers WH. Switching doctors: predictors of voluntary disenrollment from a primary physician's practice. J Fam Pract. 2001;50:130-6. [PMID: 11219560]
23. Safran DG, Wilson IB, Rogers WH, Montgomery JE, Chang H. Primary care quality in the Medicare Program: comparing the performance of Medicare health maintenance organizations and traditional fee-for-service medicare. Arch Intern Med. 2002;162:757-65. [PMID: 11926848]
24. Wilson IB, Rogers WH, Montgomery JE, Chang H, Safran DG. Rates and correlates of cost-related medication skipping among Medicare beneficiaries. J Gen Intern Med. 2002;17:218.
25. Safran DG, Rogers WH, Wilson IB, Chang H, Montgomery JE. Health outcomes in traditional Medicare and Medicare HMOs: Equal for all? J Gen Intern Med. 2002;17:210.
26. Ware JE Jr, Brook RH, Rogers WH, Keeler EB, Davies AR, Sherbourne CD, et al. Comparison of health outcomes at a health maintenance organisation with those of fee-for-service care. Lancet. 1986;1:1017-22. [PMID: 2871294]
27. Sox HC Jr, Margulies I, Sox CH. Psychologically mediated effects of diagnostic tests. Ann Intern Med. 1981;95:680-5. [PMID: 7305144]
28. Campbell SM, Hann M, Hacker J, Burns C, Oliver D, Thapar A, et al. Identifying predictors of high quality care in English general practice: observational study. BMJ. 2001;323:784-7. [PMID: 11588082]
29. Ware JE, Snyder MK, Wright WR. Part B: results regarding scales con-

- structured from the patient satisfaction questionnaire and measure of other health perceptions. In: *Development and Validation of Scales to Measure Patient Satisfaction with Health Care Services, I. Development and Validation of Scales to Measure Patient Satisfaction with Health Care Services*. 1976;NTIS publication PB:288-330.
30. United States Congress Office of Technology Assessment. *The Quality of Medical Care: Information for Consumers*. U.S. Congress Report OTA-H-386, 231-243. Washington, DC: U.S. Government Printing Office; 1988.
31. Safran DG. Defining primary care. A background paper prepared for the Institute of Medicine Committee on the Future of Primary Care. Boston: New England Medical Center; 1994.
32. Zaslavsky AM, Shaul JA, Ding L, Cioffi MJ, Cleary PD. Adjusting Performance Measures to Ensure Equitable Plan Comparisons. *Health Care Financ Rev*. 2001;22:109-26.
33. Hargraves JL, Wilson IB, Zaslavsky A, James C, Walker JD, Rogers G, et al. Adjusting for patient characteristics when analyzing reports from patients about hospital care. *Med Care*. 2001;39:635-41. [PMID: 11404646]
34. Safran DG, Montgomery JE, Rogers WH, Murray A, Chang H, Tarlov AR. Who are you and where do you live? Social class and sociodemographics as predictors of primary care quality. Presented at Association for Health Services Research, poster session. Chicago; 1999.
35. Pascoe GC. Patient satisfaction in primary health care: a literature review and analysis. *Eval Program Plann*. 1983;6:185-210. [PMID: 10299618]
36. Safran DG, Tarlov AR, Rogers WH. Primary care performance in fee-for-service and prepaid health care systems. Results from the Medical Outcomes Study. *JAMA*. 1994;271:1579-86. [PMID: 8182810]
37. Rubin HR, Gandek B, Rogers WH, Kosinski M, McHorney CA, Ware JE Jr. Patients' ratings of outpatient visits in different practice settings. Results from the Medical Outcomes Study. *JAMA*. 1993;270:835-40. [PMID: 8340982]
38. Davies AR, Ware JE Jr, Brook RH, Peterson JR, Newhouse JP. Consumer acceptance of prepaid and fee-for-service medical care: results from a randomized controlled trial. *Health Serv Res*. 1986;21:429-52. [PMID: 3759474]
39. Miller RH, Luft HS. Managed care plan performance since 1980. A literature analysis. *JAMA*. 1994;271:1512-9. [PMID: 8176832]
40. Murray JP. A follow-up comparison of patient satisfaction among prepaid and fee-for-service patients. *J Fam Pract*. 1988;26:576-81. [PMID: 3259259]
41. Clement DG, Retchin SM, Brown RS. Satisfaction with access and quality of care in Medicare risk contract HMOs. In: Luft HS, ed. *HMOs and the elderly*. Ann Arbor, MI: Health Administration Pr; 1994.
42. Rossiter LF, Langwell K, Wan TT, Rivnyak M. Patient satisfaction among elderly enrollees and disenrollees in Medicare health maintenance organizations. Results from the National Medicare Competition Evaluation. *JAMA*. 1989;262:57-63. [PMID: 2659836]
43. Safran DG, Murray A, Chang H, Montgomery JE, Murphy J, Rogers WH. Linking doctor-patient relationship quality to outcomes. *J Gen Intern Med*. 2000;15(Suppl):116.
44. DiMatteo MR. Enhancing patient adherence to medical recommendations. *JAMA*. 1994;271:79, 83. [PMID: 8258895]
45. DiMatteo MR, Sherbourne CD, Hays RD, Ordway L, Kravitz RL, McGlynn EA, et al. Physicians' characteristics influence patients' adherence to medical treatment: results from the Medical Outcomes Study. *Health Psychol*. 1993;12:93-102. [PMID: 8500445]
46. Francis V, Korsch BM, Morris MJ. Gaps in doctor-patient communication. Patients' response to medical advice. *N Engl J Med*. 1969;280:535-40. [PMID: 5764453]
47. Greenfield S, Kaplan S, Ware JE Jr. Expanding patient involvement in care. Effects on patient outcomes. *Ann Intern Med*. 1985;102:520-8. [PMID: 3977198]
48. Greenfield S, Kaplan SH, Ware JE Jr, Yano EM, Frank HJ. Patients' participation in medical care: effects on blood sugar control and quality of life in diabetes. *J Gen Intern Med*. 1988;3:448-57. [PMID: 3049968]
49. Levinson W, Roter DL, Mullooly JP, Dull VT, Frankel RM. Physician-patient communication. The relationship with malpractice claims among primary care physicians and surgeons. *JAMA*. 1997;277:553-9. [PMID: 9032162]
50. Beckman HB, Markakis KM, Suchman AL, Frankel RM. The doctor-patient relationship and malpractice. Lessons from plaintiff depositions. *Arch Intern Med*. 1994;154:1365-70. [PMID: 8002688]
51. Hickson GB, Clayton EW, Entman SS, Miller CS, Githens PB, Whetten-Goldstein K, et al. Obstetricians' prior malpractice experience and patients' satisfaction with care. *JAMA*. 1994;272:1583-7. [PMID: 7966867]
52. Shortell SM, Zimmerman JE, Rousseau DM, Gillies RR, Wagner DP, Draper EA, et al. The performance of intensive care units: does good management make a difference? *Med Care*. 1994;32:508-25. [PMID: 8182978]
53. Gittel JH, Fairfield KM, Bierbaum B, Head W, Jackson R, Kelly M, et al. Impact of relational coordination on quality of care, postoperative pain and functioning, and length of stay: a nine-hospital study of surgical patients. *Med Care*. 2000;38:807-19. [PMID: 10929993]
54. Fargason CA Jr, Haddock CC. Cross-functional, integrative team decision making: essential for effective QI in health care. *QRB Qual Rev Bull*. 1992;18:157-63. [PMID: 1614696]
55. Anderson Rothman A, Wagner EH. Chronic illness management: what is the role of primary care? *Ann Intern Med*. 2003;138:256-61.
56. Shortell SM, et al. *Remaking Health Care in America: The Evolution of Organized Delivery Systems*. San Francisco: Jossey-Bass; 2000.
57. Bazzoli GJ, Shortell SM, Ciliberto F, Kralovec PD, Dubbs NL. Tracking the changing provider landscape: implications for health policy and practice. *Health Aff (Millwood)*. 2001;20:188-96. [PMID: 11816658]
58. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the Twenty-first Century*. Washington, DC: National Academy Pr; 2001.
59. Vladeck BC. You can't get there from here: obstacles to improving care of the chronically ill. *Health Aff (Millwood)*. 2001;20:175-9. [PMID: 11816656]
60. Anderson G, Knickman JR. Changing the chronic care system to meet people's needs. *Health Aff (Millwood)*. 2001;20:146-60.
61. Fried BJ, Topping S, Rundall TG. Groups and teams in health services organizations. In: Shortell SM, Kaluzny AD, eds. *Health Care Management: Organization Design and Behavior*. 4th ed. Albany, NY: Delmar Thomson Learning; 2000:154-90.
62. Longest BB Jr, Young GJ. Coordination and communication. In: Shortell SM, Kaluzny AD, eds. *Health Care Management: Organization Design and Behavior*. 4th ed. Albany, NY: Delmar Thomson Learning; 2000:210-43.