The Future of Primary Care

The Enhanced Primary Care Model

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In today's competitive health care market, only innovators who demonstrate improvements in both quality and price will survive. Primary care physicians can survive, and even thrive, in this environment if they take a hard look at their goals, reflect on necessary changes, and experiment boldly to forge a new primary care model that can achieve the necessary goal of improved clinical care effectively and efficiently.

We propose a new model of primary care, the Enhanced Primary Care Model, that combines clinical tools with quality improvement methods to improve health outcomes. Tools include clinical guidelines, patient registries, team care, monitoring, tracking, prioritization, outreach, and the formation of multidisciplinary teams that use continuous quality improvement (CQI) methods. The Enhanced Primary Care Model has many advantages for both patients and clinicians as compared with competing models, such as the Subspecialty Model and the Disease Management Carve-out Model.

There is a short window of opportunity for primary care physicians to demonstrate improved health care processes and outcomes using the Enhanced Primary Care Model. Some improvements in primary care have been achieved by increasing efficiency and rearranging what we have to make it work better. However, more radical change is now urgently needed. In the absence of radical improvement in quality of care, the future of primary care may be much more bleak than most physicians have assumed.

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With today's emphasis on health care value, defined as quality divided by cost, there has been renewed interest in primary care. Primary care is widely believed to be a more efficient way to provide and coordinate most care, thus avoiding the excessive use of tests and procedures that add little benefit in terms of clinical outcomes.[1-6] Managed care organizations have long emphasized primary care, and generally use about a 50:50 ratio of primary providers to specialists, compared with roughly a 25:75 mix in favor of subspecialists in the United States overall.[6,7]

In recent years, as managed care organizations have increased the proportion of the population under their care, and as guidelines and payers have emphasized value, primary care has flourished, gaining renewed respect, increased importance in the health care system, more training resources, increased interest by medical students, and better reimbursement.[8] Since fierce competition in today's health care market is increasingly based on quality, as well as cost, it is of utmost importance that the quality of primary care be good.

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HOW WELL ARE WE DOING?

What is the evidence that current health care is producing either good processes or good outcomes? There is an abundance of evidence that there has been only minimal improvement in health outcomes on a population basis in the United States since approximately 1960, although expenditures on health increased from 5.3% to 13.2% of the gross national product from 1960 to 1991.

Clinical preventive services rates are far from the modest *Healthy People 2000* goals.[9-12] Hypertension, diabetes, and lipid disorders are controlled in approximately 30% of those with diagnosed disease.[13-16] Effective treatment for asthma with inhaled steroids, congestive heart failure with ace inhibitors, and coronary heart disease with aspirin and beta-blockers are often not used.[17-18]

Documentation of the impact of the health care system on outcomes such as disability, quality of life, and functional status is almost entirely lacking.[19-21] The Medical Outcomes Study has provided some evidence of the impact of various chronic diseases on functional health status,[22] and has shown that subspecialty care of hypertension and diabetes is more resource-intensive than primary care, but is not associated with superior clinical outcomes.[5,23] In recent decades, it appears that increased investment of resources in the US health care system has yielded only small incremental improvements in the health of the country's population.[24]

THE COMING CRISIS IN PRIMARY CARE

To date, problems with quality of care have been discussed primarily in relatively obscure scholarly journals. However, business health care purchasing coalitions and other health care payers such as the federal government are increasingly demanding evidence of good quality care.[25] In response to this demand, both the National Commission for Quality Assurance (NCQA) and the Foundation for Accountability (FACCT) have proposed methods to measure quality of care so that purchasers can make decisions based on quality of care along with cost.[26,27] Health care delivery systems will need to demonstrate rapid and dramatic improvement in health care processes and outcomes, and any system that can successfully and economically do this will be in a strong position to compete in its market.

Established clinical care models, including primary care models, that can show no better than 30% success in important health care measures, such as pneumococcal immunization in the elderly, or diabetes and hypertension control, will quickly come to be viewed as expensive failures, and competing clinical care models may be selected by health plan managers on the promise of better results.

RADICAL INNOVATION

As this scenario unfolds, the primary care system as we know it may be in serious trouble. Primary care systems are still structured around providing episodic care, and they usually manage chronic diseases and preventive services in the same way: one patient and one visit at a time. The immense costs of not successfully treating chronic disease and providing preventive care, and the availability of well-developed measures of quality of care in these areas will very likely direct evaluative attention to preventive and chronic disease care rather than to acute care.

For primary care to survive, family physicians must quickly improve preventive care and the management of chronic disease. We need to be radically innovative in how we think about and provide primary health care. For decades, family physicians have used first-order change as the means of improvement. First-order change is defined as rearranging what we already have, in an attempt to make it work better. It relies on small improvements in existing ways of doing things. This exercise has, for the most part, been a failure.

Second-order change, a much more radical and painful process, is now necessary and will be required by payers. Second-order change starts by articulating a goal and radically rethinking what is needed to achieve it. In this case, improved preventive health care and improved treatments of chronic disease are the goals. What tasks need to be done, and what types of workers are needed to fulfill these tasks? Are primary physicians necessary? What are the roles that primary physicians, registered nurses, and computerized clinical information systems will play in the health care system of the future? What are the rights and responsibilities of patients? How can organized care systems more effectively assist patients with needed behavior changes? What are the relative costs of different ways of approaching improvements in the quality of health care?

The trouble is that when drastic changes are being made by those who do not understand or care about the valuable parts of our current system, those valuable parts may be swept aside as well. That may be particularly true for doctor-patient relationships or other characteristics of primary care, such as the continuity and comprehensiveness that many of us value.

Who will the innovators be? Second-order change will be encouraged in far-sighted clinics and health care delivery systems that can foresee the coming crisis in health care. Factors that stimulate radical experimentation include: capitated rather than fee-for-service payment; a legal environment that is expanding the boundaries of nursing practice; advocates of self-care; a fiercely competitive health care marketplace; sophisticated information systems; capacity for investment of substantial resources; and a corporate rather than a health care professional approach to timelines. Thus, it is predictable that over the next several years, managed care organizations will be the drivers for the most radical innovation, especially since they will be the ones held accountable for desired improvements in quality of care.[25-27]

It is likely that successful innovators will tailor new models to their customers' needs. New primary care models in particular must be well received by patients themselves, whose satisfaction is a major concern of health plans, employers, and providers. In addition to the impact on cost and quality of care, the other major criterium used to assess the usefulness of new models will be patient satisfaction. Patient satisfaction, in turn, may be related to efficiency, continuity, patient-centeredness, comprehensiveness, and coordination of care, which are the key characteristics of primary care.[1]

A NECESSARY INNOVATION: THE ENHANCED PRIMARY CARE MODEL

The Enhanced Primary Care Model is one that is capable of achieving improved quality of care while maintaining key primary care characteristics and strengthening the role of primary clinicians in the design and management of new care delivery systems (Table). It has been developed by bringing together tested approaches that are compatible with the values and experiences of primary care physicians.[28-31]Research has identified many clinical improvement tools that have worked for short periods in research settings on selected subgroups of patients. However, the widespread application of these innovations in real-world practice has lagged because of doubts about their generalizability to "average" patients, concern

TABLE

Comparison of Selected Characteristics of Competing Health Care Delivery Models

Characteristic	Health Care Delivery Model				
	Enhanced Primary Care	Status Quo	Subspecialty	Diagnosis Management Carve-out	Patient Self-Care
Potential for future cost reductions	Good	Poor	Poor	Fair	Unknown
Potential for quality improvement	Good	Poor	Unknown	Unknown	Limited
Value quotient (quality vs cost)	Good	Poor	Unknown	Unknown	Unknown
Role of primary care physician	Major	Major	Minor	Minor	Minor
Importance of office systems	High	Low	Low	High	Unknown
Importance of new roles/team models	High	Low	Low	High	High
Importance of population health concerns	High	Low	Low	Medium	High
Use of clinical databases	High	Low	Low	High	Unknown
Attractiveness to purchasers	High	Low	Mixed	High	Mixed
Attractiveness to HMO managers	High	High	Mixed	High	High
Attractiveness to patients	Unknown	High	High	Unknown	Unknown
Attractiveness to subspecialists	Mixed	High	High	Mixed	Very low

over costs, and lack of perceived need for change on the part of both physicians and health care systems.

The Enhanced Primary Care Model provides a more organized, more consistent approach to care, and assures that more patients with specific needs receive critical elements of care. This model applies a specific set of tools for better basic primary care processes. These tools include clinical guidelines, patient registries, computerized tracking of patients, team care, targeting and triage tools, recall systems, flowsheets, telephone outreach, standing orders, patient self-monitoring technology, individualization of therapy based on clinical status, efficient use of subspecialty expertise, and other tools that have proved effectiveness.[28-36] The model seeks to apply these tools within primary care clinics, combining the advantages of sophisticated clinical databases[36] with old-fashioned continuity of care,[37] ongoing relationships with patients, and support of patient responsibility and autonomy.[38,39]

What does this model look like? It could look very different in different practice settings. As a specific example, consider the following possible scenario at a clinic with five primary care physicians, two registered nurse-educators, and other support personnel to serve approximately 10,000 patients. The clinic has agreed to adopt certain preventive and chronic disease care guidelines. An age/sex registry that includes information on patients' immunizations, mammograms, and sigmoidoscopies is developed. The database is checked monthly by a secretary, who identifies clinic patients due for particular needs. The secretary sends these patients letters, signed by their physician, asking them to come in for the needed services. Patients are sent no more than two reminders. A copy of the letter is put in the patient's chart to remind the providers of this issue at the next clinic visit, even if it occurs for an unrelated reason.

As an extension of this system to chronic disease care, patients who have diabetes mellitus, known coronary artery disease, or significant lipid disorders are identified and listed in a confidential registry available only to clinicians and clinic staff. Critical care elements are identified for patients with specific conditions, such as a glycosylated hemoglobin value within 2% of top normal for patients with diabetes, annual retinal examinations for patients with diabetes, LDL-cholesterol <100 mg/dL for patients

with known coronary artery disease, and so forth. The clinical database monitors the test results of patients within these defined clinical categories and periodically identifies those who fall outside desired ranges. These patients' cases are reviewed by trained office nurses working in close collaboration with the patient's personal physician, and necessary changes are made in the patients' care plans or treatments, possibly through telephone communication and follow-up.

Many other ways to improve care are possible using the tools included in this model. The application of these tools in different practice settings could lead to many variations on the system outlined above. Changes in primary care clinics that seem simple in theory are difficult to achieve in practice, as evidenced by so little improvement in the past 30 years. However, a variety of quality improvement methods are available to support clinics and health plans through the change process.[35,36] The defining characteristic of the Enhanced Primary Care Model is that it nests these innovative tools and systems in the context of organized primary care services.

The advantages of this model include the ability to tailor improvement tools and processes to unique local clinic needs; the potential to increase clinic capacity at low cost by expanding the roles of interested and easily trained office personnel; the integration and improvement of care at the primary care clinic level; and the ability to coordinate care for patients who have multiple chronic disease and preventive care requirements. This model supports and expands the ability of primary care providers to provide comprehensive, coordinated, continuous, and competent care to patients and families who have placed their trust in us. The Enhanced Primary Care Model avoids both the risk of fragmenting care and the necessity of outside contracting, which are major drawbacks of several alternative models.

To make the Enhanced Primary Care Model work, a clinic or health care system must invest the resources needed to select specific measurable improvement goals, develop effective primary care teams, find efficient methods to identify important groups of patients, develop clinical databases to monitor and track patients, apply acceptable and effective approaches to patient behavior change, and implement important evidence-based clinical guidelines. The tools and methods that support the Enhanced Primary Care Model can be applied effectively in either a capitated system of care or a fee-for-service system, and can accommodate local variations in standards of care, referral patterns, or patient mix.

COMPETING MODELS FOR IMPROVING PRIMARY CARE QUALITY

The Status Quo Model. Many family physicians and primary care professional organizations are enjoying the current popularity and increased demand for primary physicians so much that they see no need to rock the boat. The Status Quo Model is not new; it is a trap for primary care leaders and primary physicians, and should be avoided at all costs. Quality of care is a major problem, and major changes designed to improve quality are inevitable. Those who defend the Status Quo Model guarantee its replacement by an alternate model.

The Subspecialty Model. As demand for subspecialty care has fallen, some subspecialists and subspecialty advocacy organizations have suggested that subspecialists, rather than primary care physicians, should provide care to most patients with common problems, such as headaches, that traditionally have provided high patient volume and income to most subspecialists. The Subspecialty Model proposes that problems such as headaches, hypertension, type 2 diabetes mellitus, asthma, gastritis, and depression are best cared for by subspecialists rather than primary care physicians. This is, at least in part, an effort to recapture lost business and preserve subspecialty jobs and income.

This model has powerful political advocates, but it is constrained by several factors. First, it is very expensive. Second, it tends to fragment patient care among several different providers or teams of providers. Third, for many common conditions, such as hypertension and diabetes, there is conflicting evidence on whether subspecialty models perform better than existing primary care models,[23,39-41] even for the specific condition usually addressed by the subspecialist. Finally, although this issue has received little research attention, patients who visit a subspecialist for their main health problem may receive inferior care for their other health issues.

The Disease Management Carve-out Model. This model typically is marketed directly to health plan executives by drug company spin-offs or small venture capital firms, who offer "disease management" of conditions ranging from depression to diabetes to heart disease, often in exchange for a capitated fee.[42-44] The argument is made that diabetes can cost an organization $25 million a year, so if the organization gives the providers a mere $22 million a year, they will provide better care and will save the organization a lot of money.[45]

Disease management services can be provided in many ways, ranging from having patients talk to a telephone nurse in New Jersey, to building a local "diabetes clinic," to contracting with local subspecialty groups for primary care of selected conditions, to using many expanded-role nurses supervised by a few subspecialists. Many of the clinical improvement tools that are applied in the Enhanced Primary Care Model can also be applied to a more limited domain of patient problems in the Carve-out Model. Both these models attempt to provide more organized and consistent clinical care. The difference is that

the Enhanced Primary Care Model has the capacity for coordinating the care of patients with more than one problem or clinical need, while the Carve-out Model does not.

Limitations of the Carve-out Model include the lack of objective, unbiased evidence that carve-out systems are actually effective, the potential for fragmentation and lack of coordination of care for patients with more than one condition, and the difficulty of assessing the quality of services provided by independent-contracted organizations. However, an additional strength of this model is the comfort many health plan executives may feel with contracting as a way to share risks and control costs. The difficulty of actually tracking the portion of costs related to treating a disease such as diabetes makes it difficult to confirm or disprove claims that this model could save money for managed care organizations. And although this is a relatively unresearched issue, it is possible that overall utilization and overall costs may actually go up.

The Patient Self-Care Model. The concept of a clinic or health system "partnering" with members to address behavioral issues such as smoking, physical activity, diet, use of alcohol and drugs, and the use of preventive services has great merit, and has been shown to be acceptable to nearly all health plan members in some settings.[36] In our view, efforts that provide positive incentives to patients, respect patient autonomy, and guard patient confidentiality are exciting innovations.

There are some constraints to this approach, however. Consistently effective approaches to lifestyle modification have not yet emerged. Moreover, emphasis on behavioral issues related to health should not substitute for the provision of adequate access to coordinated and integrated clinical services; these two components of a health system need each other to be effective. Negative incentives for use of the health care system directed at patients with health-adverse behaviors are fraught with ethical and legal dangers, and need to be approached cautiously or avoided altogether.

Clinics or health plans that adopt partnering approaches between activated patients and facilitating care systems are likely to gain market share if this service is provided as "value-added" at low premium cost, and is seamlessly integrated with high-quality accessible primary care services. Many consumers give their health plans high marks for organized prevention activities, and may equate such efforts with good quality health care.[46,47] But efforts to address behavioral issues related to health must be carefully integrated with primary care services, and supplement rather than displace such services.

CALL TO ARMS

Complacency about the current role of primary physicians and the acceptability of current health care quality could lead to catastrophic consequences for both family physicians and patients. In the rapidly evolving US health care system, all of the models we have described will be played out in different settings, and some hybrid approaches will evolve. The only ticket primary physicians hold in this lottery is some version of the Enhanced Primary Care Model. Primary care physicians must soon demonstrate improved health care processes and outcomes using the Enhanced Primary Care Model. Significant improvements in primary care have been difficult to achieve using first-order change, and second-order change is now essential. The future of primary care is bleak in the absence of radical and successful innovation.

Primary care physicians can succeed in today's environment if clinical care is rapidly improved. The task will be easier if primary physicians are trained or retrained in the critical and informed use of clinical guidelines, are able to operate comfortably in team settings and share patient care with nurses and other types of providers, understand and use system- and process-thinking to organize and improve care, enlarge our patient focus to include population health, and become adept at changing our own behaviors over the course of our careers.[48-50] It is important to understand clinical evaluation science, clinical decision-making, quality improvement methods, and population health concepts. Educators should consider ways to support the evolutionary development of primary physicians in order to assist them in gaining recognition as a valued force for innovation and improvement in health care.

The old order of primary care is not likely to survive into the future. However, primary care physicians are the providers with the experience, compassion, and power to guide the necessary changes in our care systems. To survive and thrive, we must reinvent ourselves and learn how to provide real value in chronic disease and preventive services. Only then can we contribute to the coming revolution in the organization and improvement of health care services.

REFERENCES

1. Starfield B. Primary care: concept, evaluation, policy. New York, NY: Oxford University Press, 1992.
2. Starfield B. Is primary care essential? Lancet 1994; 344:1129-33.
3. Cohen RA, Van Nostrand JF. Trends in the health of older Americans:United States, 1994. National Center for Health Statistics. Vital Health Stat 1995; 136-37, 303.
4. Kranczer S. US longevity unchanged. Stat Bull 1995; (July-Sept):12-20.
5. Greenfield S, Nelson EC, Zubkoff M, et al. Variations in resource utilization among medical specialties and systems of care. Results from the Medical Outcomes Study. JAMA 1992; 267:1624-30.
6. Forrest CB, Starfield B. The effect of first-contact care with primary care clinicians on ambulatory health care expenditures. J Fam Pract 1996; 43:40-8.
7. Kindig DA, Cultice JM, Mullan F. The elusive generalist physician: can we reach a 50% goal? JAMA 1993; 270:1069-73.
8. Weiner JP. Forecasting the effects of health reform on US physician workforce requirement: evidence from HMO

staffing patterns. JAMA 1994; 272:222-30.

9. Manton KG, Wrigley JM, Cohen HJ, Woodbury MA. Cancer mortality, aging, and patterns of comorbidity in the United States: 1968 to 1986. J Gerontology 1991; 46:S225-34.
10. American Cancer Society. Cancer facts and figures. 1992. Atlanta, Ga: American Cancer Society, 1992.
11. Goldman L, Cook EF. The decline in ischemic heart disease mortality rates. An analysis of the comparative effects of medical interventions and changes in lifestyle. Ann Intern Med 1984; 101:825-36.
12. McGinnis JM, Lee PR. Healthy People 2000 at mid decade. JAMA 1995; 273:1123-9.
13. United Kingdom Prospective Diabetes Study Group. United Kingdom Prospective Diabetes Study (UKPDS) 13: relative efficacy of randomly allocated diet, sulphonylurea, insulin, or metformin in patients with newly diagnosed non-insulin dependent diabetes followed for three years. BMJ 1995; 310:83-88.
14. Williams TF, Martin DA, Hogan MD. The clinical picture of diabetic control, studied in four settings. Am J Public Health 1967; 57:441-51.
15. Burt VL, Whelton P, Roccella EJ, et al. Prevalence of hypertension in the US adult population: results from the Third National Health and Nutrition Examination Survey, 1988-1991. Hypertension 1995; 25:305-13.
16. Carleton RA, Dwyer J, Finberg L, et al. National Cholesterol Education Program. Report of the expert panel on population strategies for blood cholesterol reduction. Circulation 1991; 83:2154-232.
17. National Heart, Lung, and Blood Institute: National Institutes of Health. International consensus report on diagnosis and treatment of asthma. Publication No. 92-3091. United States Department of Health and Human Services, Public Health Service, National Institutes of Health, June, 1992.
18. Fuster V, Gotto AM, Libby P, Loscalzo J, McGill HC. 27th Bethesda Conference: Matching the intensity of risk factor management with the hazard for coronary disease events. J Am Coll Cardiol 1996; 27:964-76.
19. Rubenstein LV, Calkins DR, Young RT, et al. Improving patient function: a randomized trial of functional disability screening. Ann Intern Med 1989; 111:836-42.
20. Murray CJL, Lopez AD, eds. Global comparative assessments in the health sector: disease burden, expenditures and intervention packages. Geneva, Switzerland: World Health Organization, 1994.
21. O'Connor PJ, Croog SH. Assessment of functional health status. In: Rakel R, ed. Textbook of family practice, 5th ed. Philadelphia, Pa: WB Saunders, 1995: 236-45.
22. Stewart AL, Greenfield S, Hays RD, et al. Functional status and well-being of patients with chronic conditions: results from the Medical Outcomes Study. JAMA 1989; 262:907-13.
23. Greenfield S, Rogers W, Mangotich M, Carney MF, Tarlov AR. Outcomes of patients with hypertension and non-insulin-dependent diabetes mellitus treated by different systems and specialties: results from the Medical Outcomes Study. JAMA 1995; 274:1436-44.
24. Oxman A, Thomson MA, Davis DA, Haynes RB. No magic bullets: a systematic review of 102 trials of intervention to improve professional practice. Can Med Assoc J 1995; 153:1423-31.
25. Miller D. Memphis Business Group on Health: a model for health care reform and cost containment. Managed Care Q 1994; 2:1-5.
26. National Committee for Quality Assurance. Report card pilot project Technical Report. Washington, DC: 1995.
27. Foundation for Accountability. Guidebook for performance measurement. Prototype. Portland, Ore: Foundation for Accountability, 1995.
28. O'Connor PJ, Pronk, NP. Integrating population health concepts, clinical guidelines, and ambulatory medical systems to improve diabetes care. J Ambul Care Manage 1988; 21:67-73.
29. Wagner EH, Austin BT, Von Korff M. Improving outcomes in chronic illness. Managed Care Q 1996; 4:12-25.
30. Shortell SM. Remaking health care in America: building organized delivery systems. San Francisco, Calif: Jossey-Bass, 1996.
31. Solberg LI, Kottke TE, Conn SA, Brekke ML, Calomeni CA, Conboy KS. Delivering clinical preventive services is a systems problem. Ann Behav Med 1997; 19:271-8.
32. Banks NJ, Palmer RH, Berwick DM, Plsek P. Variability in clinical systems: applying modern quality control methods to health care. Jt Comm J Qual Improv 1995; 21:407-417.
33. Carney PA, Dietrich AJ, Keller A, Landgraf J, O'Connor GT. Tools, teamwork, and tenacity: an office system for cancer prevention. J Fam Pract 1992; 35:388-94.
34. Reinertson JL. Collaborating outside the box: when employers and providers take on environmental barriers to guideline implementation. Jt Comm J Qual Improv 1995; 21:612-8.
35. Solberg LI, Kottke TE, Brekke ML, Calomeni CA, Conn SA, Davidson G. Using CQI to increase preventive services in clinical practice—going beyond guidelines. Prev Med 1996; 25:259-67.
36. Pronk NP, O'Connor PJ, Isham GJ, Hawkins CM. Building a patient registry for implementation of health promotion initiatives in a managed care setting. HMO Pract 1997; 11:43-46.
37. O'Connor PJ, Desai J, Rush WA, Cherney LM. Is continuity of diabetes care related to intensity of care and glycemic control? J Fam Pract 1998. In press.
38. 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.
39. O'Connor PJ, Rush WA, Peterson J, et al. Continuous quality improvement can improve glycemic control for HMO patients with diabetes. Arch Fam Med 1996; 5:502-506.
40. Greenfield SH. Dividing up the turf: generalists versus specialists. J Gen Intern Med 1996; 11:245-6.
41. American Diabetes Association. Clinical practice recommendations 1997. Diabetes Care 1997; 20(suppl 1)1-86.
42. Spalding J. Disease state management: danger and opportunity. Fam Pract Manage 1996: 70-79.
43. Burns H. Disease management and the drug industry: carve out or carve up? Lancet 1996; 347:1021-23.
44. American Academy of Family Physicians. A position paper on disease state management. Kansas City, Mo: American Academy of Family Physicians, 1996.
45. Point of View on Business Development Opportunities. Impact of managed care on the cardiovascular market. Cedar Grove, NJ: POV Reports, 1996.
46. Zapka JG, Palmer RH, Hargraves JL, Nerenz D, Frazier HS, Warner CK. Relationships of patient satisfaction with experience of system performance and health status. J Ambul Care Manage 1995; 18:73-83.
47. Schauffler HH, Rodriquez T. Availability and utilization of health promotion programs and satisfaction with health plan. Med Care 1994; 32:1182-96.
48. Cassell EJ. Teaching the fundamentals of primary care: a point of view. Milbank Q 1995; 73:373-405.
49. Greenlick MR. Educating physicians for population-based clinical practice. JAMA 1992; 267:1645-8.
50. Berwick DM. A primer on leading the improvement of systems.BMJ 1996; 312:612-22.