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A Vision Of Quality
In Health Care Delivery

Our vision of quality health care is changing from quality as a destination to quality improvement as a journey.

by Alain C. Enthoven and Carol B. Vorhaus

PROLOGUE: In 1991 Avedis Donabedian wrote that “a health care system reflects the values adopted by a society and the ways in which it has chosen to conduct its affairs.” Changes in the U.S. health care system in this decade have been testimony to these words, with government efforts giving way to the marketplace as the chief driver of reform. Now, with health plans at center stage, policymakers are turning their attention to the concern underlying Donabedian’s statement—society’s commitment to high-quality health care. In the managed care environment, the challenge of measuring and ensuring quality has taken on new significance, as health plans compete for market share and consumers and purchasers adjust to their new role in scrutinizing plan performance.

In this essay, Alain Enthoven and Carol Vorhaus respond to the question: What would a high-quality health care delivery system look like? They identify practices and institutions that integrate or exemplify quality assessment and improvement, and they look at features of the managed care system that help create a quality-oriented health care infrastructure.

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ABSTRACT: Empirical evidence is thin, so one must rely on informed judgment, common sense, and theory when describing a high-quality health plan. Using this approach, a high-quality health plan would be characterized by excellence in the following areas: physician selection and development; health improvement; information systems; continuous quality improvement; cooperation with health care purchasers; alignment of financial incentives and appropriate capitation; and patient involvement. High-quality health plans would be nurtured by a national context in which medical education recognizes managed care and quality measurement, risk-adjusted premiums are the norm, competition is managed, and government has a limited role.

A discussion of the comparative quality of health care organizations is seriously impaired by the regrettable absence of broadly based, valid, reliable, and risk-adjusted outcomes data. Empirical evidence supports the general view that health maintenance organizations (HMOs) reduce the cost of care while sometimes improving quality, or at least without reducing the quality of processes and outcomes.¹ But beyond this, it is difficult to make a case for one or another type of organization, or for the importance for quality of one or another organizational feature. One is forced to rely on informed judgment, common sense, and theory. In this paper we identify what seem to us to be the most important features of a high-quality health care system, first at the level of the individual managed care plan, then broadening out to the entire health care system.

What Characterizes A High-Quality Health Care Organization?

Physicians. The knowledge, judgment, and skill of the physician is the single most important determinant of the quality of health care. Completion of a residency and achievement of licensure do not ensure that a physician has these qualities. Ideally, a high-quality health care organization attracts the loyalty, commitment, and responsible participation of physicians. It makes well-informed decisions about physicians, selecting them for their ability to process medical information and for their skill and good judgment in applying it. It also selects doctors for their ability to relate well to patients and to work effectively and collaboratively with other physicians and other members of the health care team.

Organizations that come closest to the theoretical ideal are the large multispecialty group practices such as the Mayo Clinic, Kaiser Permanente, and Park Nicollet Medical Center. However, few empirical data exist about the selection, compensation, and monitoring arrangements that managed care plans make with physicians, although complex and hybrid systems seem to be common.²
A high-quality health care organization creates an environment of continuous learning and a culture of professional excellence. Physicians are encouraged to participate through case discussions and journal clubs and to serve on teams that review data on treatments and outcomes to develop and update clinical practice guidelines. This occurs in teaching hospitals and to some extent in major medical groups. All health care systems, not just those with a teaching mission, should create an environment in which physicians think critically about these fundamentals and adapt them continuously to their changing environment.

Barriers to achieving this ideal include the solo practice system; the open-ended, fee-for-service, third-party payment system, which ensures that even poor doctors can make a good living; and the strong element of individualism in American medical culture. It is ironic that after completing medical training, where students are challenged and encouraged by their peers and teachers, most physicians are then turned out to the solo practice system, where group learning is thwarted.

A high-quality health care organization monitors physicians’ performance with accurate data on clinical outcomes and patient satisfaction. It develops ways to help physicians improve. It adjusts physicians’ tasks to their current competencies. And it is able and willing to take corrective action if performance turns poor or physicians become impaired. For example, U.S. Healthcare, now part of Aetna, Inc., surveys patients’ satisfaction with individual doctors and factors the results into physician compensation. Since 1990 the plan, through its subsidiary, U.S. Quality Algorithms (USQA), has developed systems for measuring and improving the performance of providers in addition to evaluating the care and outcomes of patients.

**Focus on health improvement.** A high-quality health care organization focuses on improving health outcomes in the population it serves, supplementing episodic care and production of services with an epidemiological perspective and disease prevention strategies. To do this, it needs information on the health status, risks, and problems of the population it serves. It needs longitudinal comprehensive patient records and the ability to analyze those records to identify opportunities for effective intervention.

The utilization management department in the Permanente Medical Group studies practice variations across the region. For example, the department looks for variations in rates of emergency room visits for pediatric asthma and corresponding patient outcomes, seeking to reduce the need for inpatient admissions while improving patient outcomes with better patient/parent education.
and outpatient or home care. Kaiser parents are now educated to perform basic pulmonary function tests, administer therapy with a nebulizer, and, within guidelines, adjust their child’s medication. Ten years ago these treatments were only done in emergency rooms. Today, children and families are spared the trauma and expense of overnight stays in the hospital.

More broadly based efforts also are under way. The Institute for Healthcare Improvement, under the leadership of Donald Berwick, has launched a number of national, collaborative work groups to permit organizations to work together to improve patient outcomes while reducing costs of specific clinical and operative procedures. The institute has tackled cesarean section rates, physicians’ prescribing practices, adult and neonatal intensive care, adult cardiac surgery, outpatient asthma care, low back pain, adverse drug events, and other areas. These work groups have yet to publish their results, but we believe that their efforts are promising. Perhaps the most important aspect of these improvement initiatives is the creation of a structure and process for studying clinical activities and their outcomes, thereby providing a structure and process for measurement and improvement.

Information systems. Physicians are faced with the frustrations of limited time, overwhelming volumes of medical literature, and great uncertainty about the efficacy and appropriateness of alternative therapies in individual cases. This problem is made more challenging by rapid advancements in medical science, which make physicians’ hard-won knowledge soon outdated. All of this results in wide variations in medical practice, which suggests that many patients are not getting appropriate care. A high-quality health care organization creates information systems that facilitate clinical decision making by tracking alternative treatments, resource use, and clinical outcomes. Analyses of this information can facilitate the identification and timely adoption of improved practices. The Permanente Medical Group’s utilization management department successfully bases many of its clinical decisions on this type of analysis. Similar activities are happening elsewhere, producing better care for patients.

Creating high-quality information systems for health care organizations has proved to be elusive, although the medical informatics trade press is filled with vendor ads and examples of organizations...
that are attempting to buy or build such systems. System implementation costs are high, and we do not know what the platform for these systems ought to be. But the organization that can successfully and efficiently manage information will produce better-quality health care because it will be able to measure, monitor, and improve the care it delivers. If this organization can then communicate its information to patients, purchasers, and suppliers, it will clearly have a competitive advantage.

The market is rightfully becoming more demanding of information on the quality of care. Well-designed information systems will give purchasers and patients access to data on outcomes within a particular health care system. When these data are joined with data from other systems in a region, they will begin to yield information about the overall health of populations.

- **Continuous quality improvement.** Top leadership in a high-quality health care organization must believe that broadly based continuous quality improvement (CQI) is an essential management method and strategic goal. A system’s executives must instill in their organization the importance of systematic improvement of the processes of care and the delivery of service to its patients. The organization highlights the importance of interdisciplinary perspectives and problem solving. This is a departure from the culture of fee-for-service solo practice.

Administrative and medical quality initiatives have been slow to integrate because doctors have frequently been reluctant to get involved in CQI projects. CQI represents a change from accustomed work styles and is not clearly in physicians’ personal interest, since there is an implicit loss of autonomy in working collegially with other health care professionals. Examples from other industries such as automobile manufacturing, where design engineers must work cooperatively with production engineers, marketers, accountants, and other members of the automotive building team, lead us to believe that administrative and clinical integration of quality efforts will be beneficial and will evolve as the market demands that these two strands of the organization cooperate.

Until now, most CQI initiatives have focused on improving the delivery of nonclinical services to patients and other customers. Early and promising work also has been done on improving the clinical processes of hip replacement surgery, coronary artery bypass graft (CABG) surgery, breast cancer screening, and cholesterol treatment and on reducing the incidence of medication errors. The same CQI principles also need to be applied to the management of chronic disease in our aging population.

- **Cooperation with purchasers.** A high-quality health care or-
ganization develops data about itself and its performance for both internal and external use. Such data are an integral part of the quality improvement process, and this important idea has not gone unnoticed by the marketplace. Group purchasing coalitions such as the Pacific Business Group on Health; the Health Care Payers Coalition of New Jersey; the Buyers’ Health Care Action Group in Minnesota; the Employer Health Care Alliance Cooperative of Madison, Wisconsin; the Chicago Business Group on Health; the Business Health Care Alliance in Appleton, Wisconsin; and the Colorado Health Purchasing Alliance are examples of employers joining together to demand increasing amounts of valid, audited, and comparative quality performance information across health plans. And they are honing the focus on health outcomes.

Employers want this information to assure themselves and their employees that providers are not cutting cost at the expense of quality of care—that the choices they are offering are high-quality choices. They are using the information to create incentives for health plans to improve quality. And they know that comparative measurement across systems is a necessary part of benchmarking. Employer purchasing coalitions are seeking value for money with a variety of innovations and with varying degrees of success. These efforts should be encouraged. A high-quality health plan needs to be able to report valid and reliable data to these coalitions and to act as a partner with them as the industry refines measures that produce not just the best information but the best knowledge for patients, providers, and employers.

National organizations like the National Committee for Quality Assurance (NCQA), the Foundation for Accountability (FACCT), and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) are developing quality metrics in response to this demand. The recently released Health Plan Employer Data and Information Set (HEDIS) 3.0 is a broad data set that will be used to compare how well health plans help patients to function in their daily lives and how well plans address prevention and early detection of acute and chronic disease across all age levels. In fall 1996 FACCT, a coalition of purchasers and consumer organizations representing seventy million people, released a similar set of quality performance measures to assess treatment for diabetes, breast cancer, and major depression, as well as patients’ satisfaction with health plan services and plans’ effectiveness in disease prevention. The JCAHO has announced that it will work collaboratively with FACCT and incorporate detailed information about the FACCT measures into its 1997 edition of the commission’s National Library of Healthcare Indicators, which features its Indicator Measurement
System (IMSystem), a set of acute care measures.

It is difficult to know which of the three measurement tools—HEDIS, FACCT’s, or JCAHO’s—will do more to encourage a plan to monitor these data and improve the quality of care it delivers. The measures have different orientations yet appear to overlap and serve similar functions. However, these data sets represent necessary innovations that should be encouraged in the iterative process of quality improvement. A high-quality health plan will actively cooperate with purchasers to develop these data; plans will have little to fear and much to gain from such activity, both internally and in the market.

For a market to work well in guiding purchasing decisions to optimal combinations of quality and cost (efficient outcomes), buyers must have good information on quality and cost. So far it appears that published comparative quality data are not driving large changes in market shares; this perhaps reflects unfamiliarity with the data or uncertainty about their validity. Recent studies indicate that many people do not believe that they have the information they need to make informed decisions when choosing physicians and health plans. This seems especially true of Medicare beneficiaries and persons with chronic disease. We expect that people may respond more as the data improve and become more familiar to the public. It does appear that publication of comparative information motivates providers to improve, whether out of a natural desire to excel or out of fear of loss of market share or fear of litigation.

**Incentive alignment and appropriate capitation.** A high-quality health care organization reduces the cost of and need for care by substituting better processes, not by restricting care. Done appropriately, capitation at the group level is a quality-enhancing incentive because it rewards prevention, solves patients’ medical problems effectively, improves processes of care, and “does things right the first time.” Per capita prepayment facilitates integration of care processes over the full spectrum of care, from inpatient to home care. It helps to overcome the fragmentation of care that is fostered by fee-for-service payment. It can create alliances between provider groups, physicians, and hospitals.

Returning to the pediatric asthma example, in the fragmented fee-for-service world a physician was paid for office visits, the pharmacist for the allergy medication, and the hospital for emergency
room visits. Nobody was rewarded for developing an improved treatment protocol or for teaching parents about peak expiratory flow, how to operate a nebulizer machine, and how to isolate asthma-causing agents in the home. In the past different sources paid for these separate items. Berwick rightly points out that capitation creates an incentive to reorient one’s thinking from producing and selling separate services to creating an integrated approach to care. Integrating the financing of care through capitation sharpens the incentive to integrate the design and provision of care and encourages innovation. Therefore, when a new idea creates a need for resources in one department but a savings in another department, the whole system can benefit from the idea by rearranging costs internally while encouraging the innovation.

Capitation payment needs to extend over a large enough group and scope of care to permit and facilitate total redesign of the process of providing care. Putting individual or small groups of doctors at risk for the full range of services is inappropriate because in this situation the only leverage a physician has may be to deny care to a patient. Incentives should be aimed largely at group norms and process improvement, and not at encouraging physicians to deny care. Ideally the group would not be so large that individual doctors would see no rewards for improved performance or that innovations would become lost in bureaucracy.

Physician compensation should reward quality, patient satisfaction, and productivity without creating fee-for-service incentives to overuse services. An example of a good compensation scheme would be a base salary with substantial bonuses for patient satisfaction, productivity, and overall group efficiency. The true effects of these incentives have yet to be studied. There is evidence that medical groups whose utilization was managed by internal medical directors and physician committees and that were paid by capitation saw declines in physician visits and hospital days. However, explicit quality and patient satisfaction measures were not part of the analysis. There also is evidence that capitated physician groups were more likely to monitor overuse of services such as cesarean section and angioplasty rates than underuse of services such as childhood immunization rates and retinal exams for diabetics. Follow-up care for chronic disease was found to be monitored even less.

As the market demands more evidence of quality, patient satisfaction, and overall group efficiency for preventive, acute, and chronic care, quality data systems and measurement tools should improve. A range of capitation arrangements will emerge that factor patient satisfaction and quality metrics into their compensation schemes. We think that they will be market-tested for effectiveness and
tested within plans for equity and practicality—all in an incremental and evolutionary fashion.

**Patient education and involvement.** The fee-for-service system produced a culture of overdependence on physicians selling services and underinvolvement of patients and families in their own health care. A high-quality health care organization understands that its role is not merely to sell physician services; rather, it is to maintain and improve the health of members, often by educating and involving patients and their families in care processes and disease prevention activities. This fosters patient empowerment, which makes patients happier with the care they receive.\(^{15}\)

Patient education and involvement can yield better care. For example, prenatal childbirth education and parenting classes and patient involvement in treatments for chronic conditions like asthma and diabetes often can prevent problems. When problems cannot be prevented, appropriately trained patients can at least help to manage minor problems and prevent them from becoming acute.

It will become easier to extend patient education and involvement throughout the health care system as a structure and process for consensus-based, practically developed education is created. The Institute for Healthcare Improvement’s national initiatives, mentioned earlier, are important steps in the right direction.

**Quality In The Larger Health Care System**

Although it is critical for health care organizations to approach quality as individual entities, it also is important to consider quality at the national health care system level. Given current market forces, it is difficult to consider individual health plan quality in isolation from the bigger picture. In this section we examine the national context that supports health plans in their pursuit of high quality.

**Medical education and managed care.** The medical education curriculum should be reshaped to give physicians the tools to function in a managed care environment. Physicians need to learn about the clinical evaluative sciences.\(^{16}\) They need to understand the fundamentals of epidemiology and the importance of keeping enrolled populations healthy. They need to understand the value of teamwork and economical care. They need to understand and support the logic of matching the right numbers and types of doctors (for professional proficiency) to the health care needs of the population they serve. This matching analysis should be construed not as esoteric health planning but rather as grassroots medical group management and sensible deployment of resources. Physicians need to see themselves as the leaders of integrated comprehensive care systems, not as solo practitioners. Finally, curricula should provide
students with practical experience in managed care settings.

The medical education establishment also should work actively with purchasers to advance the quality measurement agenda. The medical education establishment and professional societies should join with purchasers to support the NCQA, FACCT, and JCAHO efforts to develop population-based, condition-specific, outcome-oriented quality measures.

The Agency for Health Care Policy and Research (AHCPR) has provided development money to the Center for Quality of Care Research and Education at the Harvard School of Public Health and Mikalix and Company to produce the Computerized Needs-oriented Quality Measurement Evaluation System (CONQUEST 1.0). This system is designed to track and measure condition-specific clinical performance of providers and health plans in statistically valid and reliable ways. This is one example of how the academic research community can work with others to create a scientifically rigorous system to organize and standardize performance data.

**Risk-adjusted premiums.** Health care delivery systems should not be penalized for attracting and caring for patients with costly chronic conditions. It is irresponsible for purchasers to create powerful incentives for health care systems to avoid caring for sick people. Purchasers should form pools that use risk-adjusted capitation. Researchers should be encouraged to study existing risk-adjustment methods and their effects on premiums in the market, and purchasers should buy health care services based on risk-adjusted premiums.

The Health Insurance Plan of California (the HIPC), a purchasing coalition of small employers, has implemented a risk-adjustment model to level the playing field for health plans that offer benefits to the small-group market. The model, based on diagnostic information, is being tested for efficacy and ease of application. It has been difficult to develop a risk-adjustment model that is robust enough to work well. However, this is not an insurmountable barrier to implementing the concept. The risk-adjustment model should be refined and tested in other market segments, fine-tuned, and then generalized to the rest of the market.

**Effective management of competition.** Society’s willingness to pay for medical care is limited. A more efficient system will be better positioned to do more for patients. Basic microeconomic theory suggests that an efficient system, whether it be the industry as a whole or an individual health plan, absorbs fewer resources per person, leaving more resources available to expand access. Managed competition, which we discuss in more detail elsewhere, is one way to achieve health system efficiency. 17
Efficiency will enhance quality. One systemwide way to encourage efficiency and quality is to support regional centers of expertise for tertiary and quaternary care and to guarantee that rare and complex conditions will be referred to very experienced providers. Providers might then be more receptive to the public disclosure of their experience with certain procedures and diseases.

**Limited role for government.** To date, government regulation of the process and structure of care has been rigid and unrelated to outcomes. It has been unresponsive and unwieldy. Efficient, high-quality delivery systems have to bend or violate medical practice laws. Regulation has been expensive with negligible return on the public’s investment. However, it is doubtful that the market alone can ensure the quality of the health care system. The fear that the market might emphasize cost over quality should be viewed seriously, particularly because outcomes measures are still in their infancy and because patients are at such a disadvantage with respect to information.

Government has an important role to play in creating the quality measurement and reporting infrastructure. Consistent clinical definitions, language, and coding and computing standards are important elements of such an infrastructure. State governments should follow the lead of New York and Pennsylvania in requiring appropriate data reporting to support risk-adjusted measures of outcomes. Such analyses ought to be done regularly, perhaps for the twenty surgical procedures that kill the most people, for perinatal mortality, and for other conditions. Information from these analyses will contribute to benchmarking and quality improvement. Colorado, Florida, Michigan, and Vermont already have introduced public data initiatives, and forty-two states either have begun or plan to begin some sort of system for collecting and disseminating health care data. Emphasis on risk-adjusted measures of outcomes and consumer utility should be key aspects of these initiatives.

Government also has a necessary role in consumer protection. Although some HMOs have been in successful operation for more than fifty years, much of the managed care industry today is quite new. It is dominated by new organizations and new methods of operation developed by people who are unfamiliar with the culture and values of health care. Managed care is a complex bundle of innovative solutions to important problems, including the lack of accountability for quality, economy, and health outcomes that characterized the fee-for-service system. The government has been unable to address these problems, and consumers are vulnerable, especially when they are sick.

If the quality of health care is defined in terms of service features,
“Governments work by coercion and punishment. They are not appropriate institutions to foster quality improvement.”

acceptable standards need to be developed, agreed upon, and enforced by state or federal action. In many cases, such action is no more than bringing all health plans up to the standards already upheld by the best plans. A list of such standards would include timely access to and coverage of emergency care; referral and utilization review; confidentiality of medical records; grievance processes and dispute resolution; and availability of information on contracting providers, their qualifications, and their availability.

The lion’s share of data collection and consumer protection functions could probably be best dealt with by large and effective purchaser alliances if most consumers were covered through them. Their decisions are more likely than are those of legislatures to be motivated by concerns for an appropriate balance of employee welfare and cost than to be motivated by politics. Contractual provisions in buyer/seller relationships can be better adapted to specific circumstances and can be more flexible than legislation.

In performing the consumer protection function, government must strive to avoid falling into the traps of provider protectionism (as in the case of “any-willing-provider” laws, mandated nurse-staffing ratios, and so on) and entangling quality issues in a politicized atmosphere of fear of scandal. Cost-raising, politically inspired mandates such as forty-eight-hour maternity stays and prostate cancer screenings should not be created by legislation. These treatment decisions should be made by physicians and patients.

Governments work by coercion and punishment. They are not appropriate institutions to foster quality improvement. “Drive out fear” is one of W. Edwards Deming’s fourteen principles of quality management. Fear leads to strategies of defensiveness and cover-ups, rather than to honest, open searching for the causes of flaws and ways of correcting them. As Vice-President Al Gore put it, “In Washington’s highly politicized world, the greatest risk is not that a program will perform poorly, but that a scandal will erupt. Scandals are front-page news, while routine failure is ignored. Hence, control system after control system is piled up to minimize the risks of scandal.” There is a serious risk now that legislatures will so politicize, regulate, and micromanage managed care organizations as to stamp out the cost-reducing innovations we need and turn them into programs that work like government.
Conclusion

Up until about ten years ago the dominant ideology was that the United States had the highest-quality health care system in the world and that unmanaged fee-for-service was what got us there. These propositions lacked supporting empirical evidence. Today Americans have become serious and systematic about defining, measuring, and improving quality. Purchasers have learned to question the previous paradigm and to treat the purchase of health care services much the way they treat other purchases, with decisions based on evidence of value for money. Organized systems of health care delivery have sought to defend their claims of high quality with evidence, and they have worked to improve their performance. Our thinking is changing from quality as a destination to quality improvement as a journey. The important thing is to achieve a health care system that is empirically self-critical, constantly learning, and continuously improving.

NOTES


10. Berwick, “Payment by Capitation and the Quality of Care.”

11. Ibid.


20. Brennan and Berwick, New Rules, 204.

