

4.

Effects of Increased Competition on the Quality of Care

Look to the essence of a thing, whether it be a point of doctrine, of practice, or of interpretation.

—*Marcus Aurelius Antoninus*
Meditations

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Effects of Increased Competition on the Quality of Care

The ultimate goal of the provision and utilization of technologies in the medical care process is a healthier population. The road to this end result, though, is made up of a great many other factors that determine health status. Genetic, environmental, lifestyle, and other factors not related to medical care can exert at least as much influence on health outcomes as medical care itself.

The timely and appropriate use of technologies in the medical care process, nonetheless, has important implications for the health of the Nation. Technologies can prevent, diagnose, and cure disease. In the unnecessary or insufficient provision of medical technologies, harmful side effects to the individual are possible. Even if not harmful, unnecessary utilization represents a wasteful use of resources, which is socially undesirable.

Quality of care has traditionally been promoted in a number of ways. For example, the oldest method has been the education and training of physicians, nurses, and other providers of care. These providers, as a professional group, have also internalized codes of values, standards, and priorities to guide their preservation and improvement of the individual and social good alike. In addition, professional and governmental bodies have undertaken licensure, accreditation, and certification of individual and institutional providers as measures to ensure minimum levels of com-

petence. Biomedical research, technology evaluation, and health services research in part seek to improve the quality of medical care.

A more recent approach has been to alter arrangements for paying the providers. More widespread health insurance has improved the accessibility of medical care, particularly for elderly and poor people. But these financial arrangements contain incentives for inappropriate technology use. The procompetitive proposals, as alternatives to these current arrangements, encompass concerns about quality as well as cost.

Even if proposals to increase competition generate medical care utilization patterns that moderate rising medical costs, a key question will remain: have these costs been moderated at the expense of lowered quality of care? A number of important issues related to quality are discussed in other chapters of this report, including measures of utilization and costs of technologies as well as issues of consumer information (see chs. 3 and 5). But emphasis on such issues is somewhat incomplete without an examination of their relation to quality and the resulting implications under a procompetitive process. The specific concern and analysis in this chapter is with the changes in the levels and distribution of quality that are likely to result from shifting patterns of use under proposals to increase competition.

DIMENSIONS OF QUALITY

Perspectives

Quality is, as Luft (159) has called it, “a devilishly elusive concept.” Quality of medical care is a multidimensional concept, and its meaning can vary according to the state of knowledge and the values of an individual and a society. Different people use different measures for quality

determination, and often the measures are difficult to interpret. More care is not always better, nor is it always worse (200).

The quality of care delivered refers to its effect on health. To assess quality of care, therefore, requires that a judgment be made about effectiveness. The criteria used in arriving at that judg-

ment will vary from one situation to another, depending on the perspective adopted and the specific objectives being pursued. Not surprisingly, the formulation for evaluation of an operational concept of quality that takes into account its many aspects is difficult. As a result, quality per se usually is not defined in precise terms. Instead, the different dimensions of quality, which depend on one's perspective, are described.

Providers, consumers, and society stress different aspects of quality (see table 5). Although both consumers and providers consider technical competence to be of central importance, consumers place a greater weight than providers on ease of access, continuity, prevention of disease, and the humanization or interpersonal aspects of care.

The technical component of quality refers to the application of the science and technology of medicine, and of the other health sciences, to a personal health problem (67). The interpersonal component of care refers to the provider's relationship with the consumer, including the "milieu, manner and behavior of the provider in delivering care to and communicating with the patient" (27). Amenities of care refer to the more frivolous or nonessential services and are not included in quality.

The technical and interpersonal components of care are acknowledged not only to have approximately equal importance in evaluating care, but

also to constitute a mutually reinforcing set (26,67,283). Indeed, it is the inspiration or necessary confidence gained from the interpersonal aspect of care that often allows and sustains the technical component of the therapeutic process. Nevertheless, the technical component is the component that is more likely to be documented in the patient's record, and as a result, is the better studied one. The development of criteria and measures for evaluating the interpersonal component lags far behind what has been accomplished in that respect for technical care (284).

In contrast to consumers and providers, society evaluates results of care as they affect standards of health of the population and as the social and economic efficiency of the system conforms to society's priorities. Society, unlike consumers and providers, is apt to take into account the presence of mechanisms to correct inequities related to ability to pay, and the presence of the external or shared benefits that accrue to society when a given person receives care.

Measures

Although quality has not been specifically defined, assessments of quality of care can be performed and classified in terms of whether judgments were based on either structure, process, or outcomes (70):

- Assessment of *structure*, the settings and instrumentalities available and used for the provision of care, focuses on the characteristics of the persons and organizations that provide care.
- Assessment of *process* evaluates the activities of physicians and other health professionals in caring for patients.
- Assessment of *outcomes* evaluates the effects on physical, emotional, and functional well-being.

Outcomes could be thought to provide the best measure of quality, since they reflect the extent to which one's health is maintained or improved. The provision of health technologies and services, however, is only one of the factors that determine outcomes, at least when the latter are measured in terms of health status. Outcomes are thus a meaningful reflection of quality of care only to

Table 5.—Different Perspectives on Dimensions of Quality of Care

Dimensions of quality	Perspectives		
	Provider	Consumer	Society
Technical structure (training, board certification, other)	††	†	
Technical process in treatment of disease	††	†	
Prevention of disease	†	††	
Humanization/interpersonal aspects		††	
Ease of access (availability, affordability, acceptability)		††	
Continuity of care		††	
Equity/distribution			††
Economic efficiency			††

Key:

† = of importance.

†† = of greater importance.

SOURCE: Office of Technology Assessment.

the extent that they can be attributed to specific elements of the process or structure. For the same reason, evaluations that focus on the process or structure of care must address activities that are believed to contribute to desired outcomes (284). Data about outcomes are also difficult to obtain and often capture only a small part of true outcomes (159).

Structural measures, such as physicians' training and specialty board certification, have often been used as criteria to evaluate quality because the required data are relatively easy to collect. An important weakness of such measures is that they have usually been developed from a single model of medical care delivery, with little regard for changes over time.

Process measures are the criteria most often used by the medical profession to measure quality of care. However, process measures tend to be biased according to varying organizational approaches to recordkeeping, and because of their focus on the technical management of illness. The value of process in evaluating quality also depends

on knowledge about the relationship between certain activities (process) and outcomes.

Overall, the difficulties involved in undertaking quality assessment studies and the problems related to interpreting the findings can be formidable. Although some positive relationships between structure and process have been found, these are neither stable nor reliable.

A further difficulty is the often indeterminate relationship between standard medical procedures and favorable outcomes on health. There are two aspects to this problem. First, it is unclear what percentage of physicians do, in fact, follow currently accepted medical procedures in their practices. Studies have indicated great deviations from optimal practice behavior, especially in ambulatory care. Second, given evidence of large gaps of knowledge of what procedures and treatments are effective for many common conditions, the correlation between standard medical procedures and health outcomes is dubious (25,200). What must be kept in mind, then, is that measures of quality are all far from perfect.

CONTEXT OF QUALITY CONSIDERATIONS

Current Levels of Quality

Empirical studies concerning current levels of quality of medical care are almost all local in scope and limited to segments of care in highly selected population groups. Thus, most of the empirical studies that are available provide only suggestive evidence about the level of quality in the United States as a whole. A few studies, although not national in scope, do pertain either to a large population or to widely dispersed selections of physicians. Furthermore, national data on morbidity, disability, and use of services are available from the Health Interview Survey, and there are international data on mortality. But the closest to national studies on quality of care are analyses of postoperative mortality conducted on national samples of hospitals.

Both Bunker (187) and the staff of the Institutional Differences Study (129) found large differences in postoperative mortality across hospitals

in national samples. Even after detailed adjustments for differences in case type, large variations (as much as a factor of 2.5) in mortality rates in hospitals persisted in the Institutional Differences Study (284).

Regardless of size, scope, or population groups, a large number of studies conclude that there are considerable departures from what seem to be reasonable standards of care. Problems have been found both at the one extreme of insufficient provision of technologies and at the other extreme of unnecessary utilization.

Studies of the process of care almost invariably show that the care provided is below the standards used because not all indicated procedures or tests were done. Performance levels in relation to criteria often do not exceed 45 or 55 percent (284).

A number of studies have also documented the provision of unnecessary services and technologies, especially in the areas of surgical services,

laboratory procedures, and drugs. Particularly for laboratory tests, studies tend to show a pattern of overuse (284). The studies of the quality of surgery, however, have been criticized for using post hoc criteria, when the appropriate measure should be based on the information available to the surgeon *before* the operation takes place (189,284).

Lastly, the variation in performance among providers has been found to be substantial. Hulka, et al. (125), for example, in their study of internists obtained performance scores ranging from 30 to 80 percent. A similar range is reported by Rhee (225) using data from Payne, et al. (217). Nevertheless, within that variation, systematic differences do appear. In particular, specialists practicing within their own domain consistently get higher scores than general practitioners (see e.g., 26,126,217,218,228,284).

In view of such study results, one possible conclusion is that present levels of quality of care are quite low. An alternate response, however, is to question the validity of the standards used in assessing quality. As previously discussed, there is often an indeterminate relationship between standard medical procedures and favorable outcomes on health. It is also true that much of technology use in medical care is not fully established by rigorous research.

The presence of health insurance coverage mechanisms is another important consideration. If insurance creates a divergence between individual costs and social costs, there will be a disparity between individual preference levels and social levels of optimal quality. The disparity arises because sick people and their providers consider individual benefits of technologies but are insulated by insurance coverage from the costs of technology use. The result, from a social perspective, is a misallocation of resources toward a more costly distribution of technologies (see chs. 2 and 3).

These incentives toward overuse of technologies are reflected in existing quality assurance mechanisms. The Professional Standards Review Organizations, Blue Cross/Blue Shield's Medical Necessity Program, and Medicare coverage policies toward new technologies, for example, pro-

mote quality (though not explicitly in the case of Medicare coverage policy) through utilization review. While studies document the existence of insufficient provision of services in some areas of care, concern with the current system is clearly weighted toward the issue of unnecessary use.

Intended Levels of Quality

Proponents of greater competition agree that quality of care is a priority issue. Procompetitive proposals attempt to align individual preferences and costs more closely with social preferences and costs. Almost by definition, such convergence is professed to assure and improve quality. Enthoven (79) states simply that "the best quality of care reflects society's preferences in the use of resources." Feldstein (87) is even more terse in stating that, at least in regard to hospitals, "quality is assumed to be a function of the real resources consumed." Quality is to be secured through the inherent workings of market forces that encourage consumers to select the level and type of insurance plan or medical technology which represents the optimal tradeoff, from the point of view of the consumer, between benefits and costs.

Competitive proposals emphasizing patient cost sharing at the time of use intend to encourage the consumer, and perhaps the provider acting in the economic interest of the consumer, to consider the cost effectiveness of a particular service or technology. The belief is that if patients have to pay more of the out-of-pocket price to receive care, they will be more reluctant to purchase services which they perceive to be of little efficacy. Hence, the intent is to improve care through reduced use of unnecessary and marginally useful services, by working through consumer incentives.

In contrast, those proposals emphasizing competition among comprehensive care organizations leading to increased enrollment in health maintenance organizations (HIUOS) intend to encourage the *provider* to consider the cost effectiveness of a particular service. In changing the manner in which a provider is paid from a services- to a time-based system, the direct monetary incentive to provide more services is eliminated. Again, the intention is improvement in quality through reduced utilization of unnecessary and marginally useful services (see chs. 2 and 3).

One concern that both strategies to increase competition address directly is the issue of underinsurance. To guard against underinsurance, mechanisms such as comprehensive care packages and catastrophic coverage are specified. One of their purposes is to avoid a situation where a person will not seek needed care or will suffer financial hardship as a result of not having sufficient insurance. In that sense, these are explicit provisions designed to assure that initiation and continuation of care are not hindered too much. Given the possible effects of initiation and continuation, these provisions have important implications for quality.

Some of the proposals contain another more or less explicit intention that private insurance companies will be put in a position of competing with one another. In order to compete successfully, companies will impose stricter controls on providers to limit expenditures and keep premiums at competitive levels. Results could include a focus on rooting out unnecessary care, not covering cer-

tain services believed to be of no benefit to patients, or even the institution of formal monitoring of care.

Other proposals also intend a similar “second-layer” arrangement of administrative control to assure certain levels of quality care. Some of the proposals indicate that a qualified plan will have to meet specified “performance standards” including some that relate to providers (77). McClure (170) favors imposing quality assurance mechanisms on competing health care plans, as long as other providers are also subject to those mechanisms.

Although competition-promoting proposals do not envisage doing away with the apparatus in place now to assure and promote quality of care, increased price competition under some of the proposals may lead to a shift in the overriding regulatory focus from a concern over unnecessary utilization to a concern over underprovision and omissions of useful services and technologies.

RESEARCH ON QUALITY OF CARE WITH GREATER PATIENT COST SHARING

Increased cost sharing by patients clearly reduces the use of medical care (see ch. 3). The issues for quality, more specifically, are how patterns of use change, what mix of patients are affected, and whether or not the resulting quality of care is altered.

Initiation of Care

One way a reduction in use of technology may come about is through reduced initiation of care. It is useful to distinguish at least two different effects related to initiation: delay by consumers in seeking care, and failure to seek care despite a recognized need—the extreme case of delaying initiation.

There is strong evidence that greater cost sharing deters people from initiating care. The most recent evidence available on these issues comes from interim results of the Rand Health Insurance Study (192). This randomized experimental study

of people under 62 years found that the likelihood of having a physician visit or hospital admission, as well as the number of visits per person, were lower with higher coinsurance rates. The Rand researchers are still analyzing data on health status. They have not yet examined whether less contact with providers or fewer visits and admissions had any detrimental effects on health (see ch. 3).

As one would expect, when necessary care is delayed, or not sought at all, quality of care may be lowered by leading to some combination of fewer effective kinds of care, greater patient anxiety, increased likelihood of complications, chronic problems, extended discomfort and activity limitation, or even death (251). If and when a patient does seek care, the use of technologies may be greater or less efficient because of the patient’s worsened condition.

It is not clear, however, that cost sharing delays “necessary” care. People who had to pay higher

copayments under the California Medi-Cal program reported no deterrent in seeking care for "significant conditions" (24). One investigator questioned the extent to which more ambulatory care discovers new disease or controls disease already diagnosed (37). A study of people with congestive heart failure found intensive followup reduced subsequent hospital days for that condition, but was associated with an even larger increase in days for other cardiac and noncardiac disease (37). Similar results were reported for rheumatoid arthritis (37).

Procompetitive proposals advocate relating cost sharing to family income. It is instructive to review the results when cost sharing has been introduced without any attempt to make out-of-pocket expenses proportional to income. When Saskatchewan, in 1968, levied a copayment on physician office and home visits, the effect fell disproportionately on its low-income population. Use of physician services among poor families decreased by 18 percent compared with a decrease of 6 percent for all families (15).

Similar results were found following a 25 percent coinsurance charge in 1967 on all physician services in a Stanford University fee-for-service group in Palo Alto, Calif (240). Following the implementation of that coinsurance, per capita number of physician services fell 24 percent. While a decline among all age, sex, and occupation groups was experienced, physician use fell more for the occupation group with the lowest income. There were also greater decreases in the use of preventive services—particularly annual physical examinations—than in therapeutic care. Within therapeutic care, there was a greater reduction in visits for "possibly minor complaints" (earache, colds, headaches, etc.) than in visits for other services (240).

In a followup study, 4 years after coinsurance had been initiated, the effect of the coinsurance was found to have not been transitory; the drop in physician services remained constant (238). Four years following the introduction of coinsurance, the enrollment of the lower income employees belonging to the plan dropped from one-third to about one-quarter of the total enrollment. These employees chose to join Kaiser, a

prepaid group plan requiring minimal coinsurance and lower premiums (see ch. 3).

Although neither the Stanford nor Saskatchewan study correlated reductions in physician visits with a reduction in necessary care, another study on cost sharing revealed a more direct effect on quality of care. In 1972-73, the state of California conducted an experiment on copayment in the California Medi-Cal (Medicaid) program (24). People eligible for Medi-Cal whose earnings or assets exceeded a certain amount were required to pay \$1.00 for each of their first two visits to providers each month and \$0.50 for each of the first two prescriptions filled each month. Among recipients of Aid to Families With Dependent Children, copayers' utilization rates were 45 percent lower for childhood immunizations, 22 percent lower for Pap smears, and 58 percent lower for "total obstetrical care." This study did not resolve the extent to which differences in Pap smears and obstetrical care could be explained by different rates of pregnancy or different proportions of women in the copay and noncopay groups. Women in the copay group had higher rates of regular care during pregnancy and about the same rate of "preventive services" as women in the noncopay group.

If people in a community turn to providers for care that is not needed, and if the reductions in care are confined to this category of "frivolous" use of services, then the effects on quality might actually be positive ones. Similarly, if the care provided in a community tends to do more harm than good, then restricting access to such care may improve rather than harm quality.

There is substantial evidence that the present use of certain technologies is not related to need. Regional variations of surgery within the Rochester, N. Y., area, and between the United States and Great Britain are examples (29,148).

More recently, the use of several common medical practices (such as tonsillectomies, hysterectomies, prostatectomies, and lens extractions) were found to vary substantially among New England community populations, despite the absence of any measurable difference in their need for services (276). Watkins (272) has also documented

the wide variation in appendectomies across communities and across national populations of Australia, the United Kingdom, China, and the United States, again without corresponding variation in patterns of need. Similar variations have been found in the use of the laboratory procedures, antibiotics, and injections (151,153).

Selection of Providers

Another consideration for quality of care under the option of greater coinsurance and deductibles is increased shopping for a provider. The choice of the initial provider will be a consumer decision, while that of referral to providers will likely require a joint decision by consumer and provider. In theory, it should be rewarding for consumers to shop for providers using price as a key criterion, since variability in prices among providers is a well-documented phenomenon (223).

To the extent that shopping does take place, consumers may find providers who are at least as qualified as those the consumers would have otherwise used, but whose prices are lower. However, as previously discussed, a consumer's evaluation of a provider's quality could possibly take the technical quality more or less for granted and focus on the interpersonal aspects of quality that the consumer can more readily judge. Unless technical quality is somehow vouched for by some third party, shopping based only on price with technical quality largely left out may result in lowered quality of care. On the other hand, an argument could also be made that just as hospitals have competed for physicians through acquisition of the most modern and sophisticated medical technology, a parallel dynamic could emerge between provider and consumer. This may be an area, too, where consumer advocacy could surface,

Another possibility is that consumers could turn to altogether different providers who were less expensive or who, like pharmacists, did not charge for advice. If the care these providers offer is not technically on a par with that of physicians, the quality of care may be reduced. There is long-standing evidence that some people, especially those with lower incomes, use pharmacists in situations where they would otherwise (if it were

not for problems of cost and access) see physicians (142). When such people are given better coverage for physician services, as with the introduction of universal health insurance in Quebec, they in fact decrease markedly their use of pharmacists for consultations about medical problems (226).

Quality may also be improved if less expensive professionals, such as midwives and nurse practitioners, are as technically proficient as physicians in certain areas and more proficient in interpersonal aspects. Provider shopping may increase incentives for a more creative mix of personnel substitution for physicians that would not lower prices or necessarily sacrifice quality. Recent studies suggest there can be substantial cost savings, at least in the short run, from personnel substitution. Reinhardt (223), Robyn and Hadley (229), and others find that the use of more support personnel in doctors' offices can reduce the cost of physicians' services; Douglas and Cole (73) and Feldstein (90) come to the same conclusion for dentists (62). The use of nurse practitioners and physician assistants in organized delivery systems has also increased productivity and reduced cost (149).

Choice of Technologies

An intended effect of proposed greater cost sharing that is closely related to choice of provider is to induce the consumer to choose technologies more efficiently. This decision is made jointly by consumer and provider. Since it is subsequent to initiation of care, the decision about choice of services is strongly influenced by the prior decision about choice of provider. For most providers, especially those in fee-for-service practice, essentially the same incentives would continue. Any significant changes in incentives would mostly come from the patient side.

The more favorable quality implication is that patients' greater cost sensitivity about choice of services may force providers into increasing clinical efficiency, which would maintain or even improve levels of care. Recent studies have pointed to the possibility for more widespread implementation of such efficiencies. Luft, et al. (162), studied 12 surgical procedures of varying com-

plexity in 1,498 hospitals to determine the relation between a hospital's surgical volume and surgical mortality. The results indicated a favorable relation between volume and mortality in several instances, implying the value of regionalization for certain operations.

It may be, however, that volume is a natural consequence of high performance and quality standards originally established by individual clinicians or hospitals, not the other way around. Levels of quality under such circumstances would not necessarily be affected by regionalization. Reinforcing the value of regionalization, Farber, et al. (83), found that hospitals performing relatively little surgery in seven procedural areas reported higher incidence of postoperative wound infections.

Greater cost sensitivity may also lead to a different choice of services that results in greater levels of consumer satisfaction. Patient preferences for treatment outcomes can differ substantially from the preferences of their physicians. It may well be that, in many situations, the clinical outcomes valued by physicians are less important to patients.

A negative possibility of greater choice of services is that consumers may demand more services than before, especially services covered as catastrophic expenses. This could have negative effects in one of two ways: by lowering quality with respect to interpersonal aspects if the consumers demands increase tension between provider and consumer, or by lowering technical care if the demands for more services result in provision of unnecessary care.

Under greater cost sharing, catastrophic coverage would remove the restraints on the provider when large expenditures have already been made. If the provider then used additional services, the effect on quality would be indeterminate. The extra care might improve the patient's condition, have little or no net benefit, or produce harm. The provision of catastrophic coverage would not change the situation regarding alternative delivery systems such as HMOS. They already have such coverage and rely on the organization to restrain use.

As for coverage of comprehensive care, HMOS also now provide such benefits. For other practices, quality could be either improved or unaffected as providers and consumers choose the setting and type of care for a medical condition without the constraint of insurance coverage. For example, present coverage of a procedure in a hospital but not on an ambulatory basis might lead to hospitalization, with the greater risks associated, when ambulatory care would be appropriate.

Equity Considerations

The effects of greater cost-sharing provisions on use of technologies seem strongly related to income (66,159,240). Lower income persons are more likely not to initiate care, to delay initiation, and to reject services—all with potentially negative implications for quality of care. Recognizing these implications, the procompetitive proposals relate cost-sharing levels to income. Ginsburg (105) has argued, though, that in order to relate these levels to income, private insurance companies would have to measure a person's income both at the time the premium is set and at the time of claim; this task is not possible under current statutes protecting privacy and would also pose large administrative costs. An alternative to such problems would be linkage with information from the Internal Revenue Service.

If income-related cost-sharing levels can be put in place, their effects on low-income persons who choose such coverage are not easily predicted, especially for Medicaid beneficiaries. Medicaid coverage differs from one State to another, now more than ever before. In most States there are no cost-sharing provisions, but access to care can still be severely restricted by the definition of the services covered. All that can be said is that in States with relatively comprehensive coverage, cost-sharing provisions are likely to affect initiation and continuation in ways that are analogous to those discussed earlier for the insured population, and with similar implications for quality of care. In States with very restricted coverage, any adverse effects on quality resulting from the inhibiting effects of cost sharing may be compen-

sated for by the kind of broader coverage envisioned in procompetitive proposals.

One group for whom the potential benefits are less ambiguous are people under age 65 who have no public or private insurance coverage. Estimates of the size of this group range from 23 million to 25.6 million people (33,135). For these people, any insurance, even with cost-sharing features, would facilitate access to care, and thus might contribute to the quality of care they receive.

If, on the other hand, cost-sharing levels are not or cannot be set in relation to income, then the effects on the quality of care received by lower income persons can be expected to be in the same general direction as for other income groups, but with differences in magnitude. For individuals who are covered or could be covered by Medic-

aid, access and therefore quality would be more apt to be reduced. For other individuals, there would still be improvements in quality because of increased access to care, but the benefit would be lower. Most importantly, among those who already have coverage, the effects on quality would be distributed inequitably across income classes, with lower income people being more apt to forego necessary care than those in the higher income brackets.

The effects of cost sharing on Medicare beneficiaries are likely to be similar to those described earlier for the insured population, inasmuch as Medicare Part A (for institutional services) and Part B (for physician services) provisions resemble those of a standard health insurance policy (284).

RESEARCH ON QUALITY OF CARE WITH COMPETITION AMONG COMPREHENSIVE CARE ORGANIZATIONS

Proposals for greater competition among comprehensive care organizations envision greater choice of health plans, and greater enrollment in prepaid group practices is perceived as especially desirable. Again, effects on quality of care can be examined in terms of initiation of care, selection of provider, and choice of technologies.

Initiation of Care

In HMOS, the financial barriers to initiation of care represented by cost sharing are not great. Furthermore, one of the traditionally distinctive features of HMOS is the comprehensiveness of the services covered, which should further facilitate initiation of care. Surveys of HMO enrollees indicate that the scope of benefits available, such as complete ambulatory care, maternity care, mental health/drug abuse services, and preventive care, is one of the most attractive aspects of HMOS (159,254).

However, there may be other barriers to initiation of care in HMOS. One way HMOS, and especially prepaid groups, achieve lower costs is by limiting the supply of beds as well as physicians, thus constraining demand (222). The restricted

supply of services is rationed not through money prices but through waiting times to obtain an appointment and, because of centralization of services, through travel distances to clinics.

Enrollees in prepaid groups wait a shorter time in the physician's office, but a longer time for appointments (159). No difference has been found between the time to obtain an appointment for prepaid and fee-for-service group practices (119). Other measures of access (e.g., home visits, ability to reach a physician by telephone) have been investigated, but the findings do not distinguish between HMOS and fee-for-service solo practices on these dimensions (58,159).

Almost all prepaid groups have provisions for providing care without an appointment's being required, such as walk-in clinics and emergency rooms. Their central recordkeeping also promotes continuity of care. Such integration could reduce unnecessary duplication of tests and examinations, which are not only inefficient but can have adverse effects on health. Overall, initiation and continuation of care may be enhanced, resulting in higher levels of technical quality.

Selection of Providers

Another aspect of quality that might be affected by enrolling in an HMO is the selection of the provider. In HMOS, the selection is constrained to a finite set of providers, namely those who are members of the prepaid group or the individual practice association (IPA). Thus, for all practical purposes the choice of an HMO as one's health insurance plan to a large extent determines—or at least largely constrains—the choice of provider. However, the IPA by its nature is apt to offer a choice of physicians that can be quite broad compared with the prepaid group.

But those in favor of group practice dispute that consumers' free choice of physicians is good in itself or is correlated with desirable health outcomes. In a solo setting, consumers have little knowledge or control over the providers of care (40,111). They rely mainly on a lay referral system for choosing physicians on the basis of recommendations of friends and neighbors (93). Patients in a group practice can often select physicians among those available and change if they wish. Most important, the group can guide the patient's choice on knowledgeable grounds (40). Furthermore, beyond having the knowledge to help consumers select physicians, group providers have a professional interest in selection of well-qualified colleagues.

The most telling and persistent criticism of the group practice framework is that it depersonalizes patients in their dealings with a provider and with the medical care system itself. This relates to process as it concerns the way care is delivered and may adversely affect health outcomes. It can also concern outcomes directly, since emotional well-being is a part of health.

Two studies of consumer satisfaction with quality of care produced findings that HMO enrollees were more negative about the quality of care they received than were patients of fee-for-service physicians (154,159). It is uncertain which characteristics of medical practice consumers evaluated as indicators of quality, but such a perception may stem from consumers' heavier emphasis on the interpersonal component of care. Studies of the interpersonal aspects of care report

that prepaid group patients were less satisfied with the warmth, attention, and caring attitudes shown by physicians than the patients of fee-for-service physicians (159).

Choice of Technologies

One consistent finding in the literature is that enrollees of prepaid groups use many fewer hospital days than the general population (see ch. 3). To the extent that this represents the elimination of unnecessary care or an appropriate substitution of outpatient care for inpatient services, it represents an improvement in quality along with a reduction in costs—the kind of ideal combination that some of the advocates of this strategy wish to achieve (78).

As noted in chapter 3, this decrease in hospitalization occurred in both medical and surgical categories, although reported rates of surgery were generally far lower among HMO patients than among comparable control groups. The Federal Employees Health Benefits Program's (FEHBP's) experience showed consistently lowered hospitalization rates by members electing HMO coverage (see app. C). Such rates were particularly striking for “elective surgical admissions,” estimated at 20 to 25 percent below fee-for-service plans (37). None of the reviewers of the literature on HMOS have concluded that reduced hospitalization rates meant the delivery of better quality care (37,70,231).

There has always been some concern that prepaid group practices may be achieving lower hospitalization rates by not always admitting patients to the hospital and by not performing surgery when indicated. No evidence to that effect exists. One study, which compared a Seattle prepaid group practice and an independent fee-for-service practice, raised the possibility that the prepaid group might have provided too little appropriate surgery (152). But the different rates were attributable mainly to tonsillectomy and adenoidectomy, two procedures whose efficacy is controversial. Luft maintained that there is no evidence that “skimping” by HMOS has occurred anywhere “but in the unique situation of the Medical Prepaid Health Plans in southern California during the early 1970's” (155) (see app. E).

HMOS v. Traditional Fee-For-Service Practice

When choosing an HMO as one's health insurance plan, the question that arises is whether the quality of care provided in HMOS differs from the quality of care provided in the fee-for-service sector. This is a question that has been addressed more or less directly by dozens of studies and by the previous discussions in this chapter. It has also been the subject of two recent major reviews of the literature, in particular, those by Cunningham and Williamson (54) and Luft (159).

Cunningham and Williamson reviewed 27 separate studies (17 independent research projects) and concluded that 19 of these studies found that the general quality of health care in the HMOS studied was superior to that in general fee-for-service or other settings (54). In all 19 cases, the HMOS were prepaid group practices. In eight of the studies, either the quality of care was found to be similar in both settings, or the total study findings were inconclusive. Two of these concerned Medicaid recipients in IPAs, and one studied Medicaid recipients in both IPAs and prepaid groups. The other five in this inconclusive category reported on prepaid group practices. None of these studies reported HMO care to be inferior overall. A total of 80 independent measurements, reflecting the study's criteria of valid quality indicators, that assessed specific aspects of care in these studies generally supported these overall findings (see table 6).

Table 6.—Comparison of Quality of Care in HMOS and Other Settings: Scoring by Structure, Process, and Outcome Indicators

	Superior care in HMOS	Comparable care or inconclusive data: HMOS and others	Inferior care in HMOS
Separate indicators			
Structure	4	1	0
Process	41	11	6
Outcome	8	7	2
Total	53	19	8
Overall studies			
Total	19	8	0

NOTE: These scores were based on measures reflecting each study's indicators of quality of care.

SOURCE: F. C. Cunningham, and J. W. Williamson, "How Does Quality of Health Care in HMOs Compare to That in Other Settings? An Analytic Literature Review: 1958 to 1979?" *The Group Health Journal* 1:4, 1980.

Of the eight instances of inferior care, two were measures of continuity of care where use of team care in the HMO was not fully taken into account (17,122), and two were satisfaction measures (55, 99) where members of prepaid groups were less satisfied than fee-for-service recipients with their physicians but more satisfied with technical quality and other health personnel. One indicated provision of fewer preventive services in HMO settings (101), and one indicated poorer outcomes for hypertensive patients (245). The remaining two findings in this category related to perceived access to care (245) and physician rating for appropriate length of hospital stay (217).

Reviewing many of the same studies and also grouping quality assessment measures under the headings of structure, process, and outcome, Luft came to no definite resolution about the quality question of HMO v. fee-for-service care (159). The available structural data generally supported the contention that prepaid groups are at least as good as the conventional system. Prepaid groups tend to have higher proportions of more educated (board-certified) physicians and are more likely to use accredited hospitals. However, some have had problems gaining access to certain hospitals and others have chosen not to emphasize specialist and accredited nonprofit hospitals. In the only such study of an IPA, qualified surgeons performed more of the surgery at the IPA than in fee-for-service practice. Internal quality review mechanisms were found in HMOS of both types, but the effectiveness of these internal measures was not clear.

Process measures of the review indicated that large multispecialty group practices, both cavitation and fee-for-service, have a quality advantage over small groups and solo practitioners. Outcome measures for HMOS were not generally found to be different from those of conventional practice. An exception is an early study (244) that showed that enrollees of the Health Insurance Plan of New York, an ambulatory cavitation group, had lower rates of prematurity and perinatal mortality than a control population served by fee-for-service medicine. In another earlier study, the National Commission on Health Manpower concluded that the quality of care delivered by the Kaiser-Permanente prepaid groups in California

was equal to or better than the care in most communities (224).

Equity Considerations

This strategy to increase competition among comprehensive organizations seeks to encourage enrollment in organizations similar to present prepaid group practices. The history of HMOS serving Medicaid and Medicare populations suggests that this arrangement is not without its difficulties. Less than 2 percent of Medicare beneficiaries and a similar percentage of Medicaid eligibles are enrolled in HMOS. HMOS usually market to employment groups, which tend to have fewer elderly or chronically ill people than the general population. With cavitation payment and community rating, HMOS have an incentive

to avoid high or otherwise expensive users of medical care. The proposal to relate premiums to actuarial categories would mitigate that effect (79), but not eliminate it. The incompatibility of the retrospective payment methods of Medicaid and Medicare with HMOS' cavitation and the uncertain length of Medicaid eligibility payment have also deterred enrollment of these groups (see ch. 3).

Some improvement might be expected in the quality of care received by Medicaid recipients who would enroll in HMOS because of accessibility and the comprehensive nature of the benefit package. However, the problems that arose with the Prepaid Health Plans in California indicate the importance of minimum standards or qualifications for such plans (see app. E).

LIKELY EFFECTS OF INCREASED COMPETITION ON QUALITY OF CARE

Greater Patient Cost Sharing

Higher levels of cost sharing by patients can be expected to lead to use of fewer technologies, especially in situations involving laboratory tests and drugs, illnesses of a potentially minor nature, and certain groups of surgery. The use of technologies in such situations has exhibited a great deal of variation, often unrelated to medical condition. To the extent that specific technologies are of little or no real benefit in these situations, changes in coverage provisions will not appreciably alter the outcome or the length of the condition. Barriers to initiation of care may also be offset by increases in clinical and production efficiencies by providers. Under such circumstances, levels of quality of care will be maintained if not improved.

To the extent that necessary care—care for which medical intervention can alter the course of the disease and affect other outcomes—is eliminated, however, quality of care is bound to suffer. For technologies such as immunizations, whose efficacy has been well established, some harm to quality can be expected with any decline in their *use*. Relating cost sharing to income would be necessary to avoid pronounced declines in ac-

cess and quality with regard to such necessary services for low-income and Medicaid populations. The coverage of catastrophic expenses is also designed to prevent people from foregoing needed care because of finances. But people with chronic conditions and recurrent annual expenses up to the threshold might find medical expenses of 10 percent of their income to be prohibitive over several years.

At the same time, if catastrophic coverage promotes the use of technologies of questionable benefit to the patient, levels of quality may be diminished. A final concern with increased levels of cost sharing is that cost-conscious consumers shopping for less expensive services may unintentionally receive care of lower technical quality, a critical aspect of care not always appreciated by the consumer.

Competition Among Comprehensive Care Organizations

If consumers respond as at least some of the competition proposals intend for them to, substantial numbers will enroll in HMOS. The avail-

able evidence suggests that they will receive technical care that is of quality at least comparable to that available in the fee-for-service sector, although they may be more dissatisfied with the interpersonal aspects of care. This result stems from the more rigid organization that is characteristic of HMOS, especially prepaid groups.

Present medical practice allows much room for changes in the number and mix of technologies used, with little effect on or improvement in quality of care. The intention of creating a more cost-sensitive environment is that incentives would be changed and all providers would feel pressures to be efficient. In this different situation, there might be a tendency for providers to lower quality to cut costs. The likelihood of lowered levels of quality might be especially pronounced in group practices with large concentrations of low-income and Medicaid patients.

IMPLICATIONS FOR POLICY

Examination of the likely effects on quality of care of competitive proposals suggests the importance of better information about quality, where quality is used to mean both the benefits from care and the competence of those who deliver it. For the majority of technologies, the influence of these proposals on quality remains speculative, in large part because of the lack of good information on what constitutes good and necessary care.

As previous OTA reports (200,201,208) have testified, available information about the benefits of care has much room for improvement. Pauly (214) states in an article on unnecessary surgery that medicine has not generated “either the conceptual apparatus or the complete information set needed to arrive” at a general consensus on which procedures are necessary and which are not. Likewise, many new and emerging technologies have been documented to enjoy widespread use without accompanying information regarding appropriate use (200,208). Information about the competence of providers is also very scarce. Even when information is available, it may not reach the provider or consumer who needs it.

The problem of the lack of information about the benefits of specific care that exists under the

In addition, HMOS studied in the last 20 years are not necessarily the type that would proliferate in response to competition. The organizations that fit under the rubric of HMO and alternative delivery systems are generally becoming more varied. Many of the best studied prepaid groups (Kaiser-Permanente, Health Insurance Plan of New York, Group Health Association, Group Health Cooperative of Puget Sound) have a history of sponsorship and organization that make them unlikely to provide complete insight into any of the IPAs that have multiplied in recent years. Those IPAs often represent attempts by private practitioners to compete with an existing prepaid group. The strictures imposed by capitation payment are shared by both types of organizations, but the goals, incentives, and sponsorship, which are likely to affect many aspects in quality of care, are apt to be quite different, and relatively less is known about IPAs altogether.

current system of medical care will probably continue to exist under any new procompetitive system. However, the uses and focus of information about quality might change, depending on the competitive proposal and the direction of the concern regarding quality.

With increased patient cost sharing, the concern about providers' use would remain in the direction of overprovision. With present payment methods, providers would have no obvious incentive to underuse technologies and might overuse them in the catastrophic area. Information could be directed to consumers about appropriate circumstances for initiating care, provider quality, and the benefits of some procedures.

In contrast to the present system, which is believed to encourage unnecessary utilization, the competitive strategy that emphasizes comprehensive care organizations would shift the focus of concern about quality to the underprovision and omission of useful technologies. Quality assurance measures here could take the form of information about the quality of the provider group, as well as direct quality checks on providers themselves.

The experience of the California Prepaid Health Plans provides an instructive lesson about the

levels of poor quality possible with greater plan competition and increased enrollment into alternative delivery systems (see app. E). As a result of that situation, legislation was passed to prevent similar abuses in the future. Certain marketing practices were prohibited. Direct quality checks on providers were made through provisions of minimum benefit packages (as established through Federal HMO legislation), and through improved performance standards. Broad requirements were established for disclosure by plan officials of ownership interests and reimbursements (see app. I).

Federal legislation has also since established that Medicaid and Medicare beneficiaries must constitute a minority of enrollees in such plans. The intent has been to assure that these beneficiaries participate in mainstream medical care as well as to allow non-Federal beneficiaries to help monitor a plan. In addition, there is sufficient experience with poor and aged people in prepaid groups to indicate that the problems with Prepaid Health Plans in California were not typical of that organizational form (see apps. C and D).

A number of possible mechanisms should be considered for quality assurance activities with the advent of greater price competition. One possibility is a more decentralized approach through individual providers and insurers. Physicians, other professional providers, and third-party payers could impose stricter quality controls both through professional standards and the generation of information concerning quality of care. Blue Cross/Blue Shield and the American College of Physicians are already cooperating in an effort to identify procedures and services believed to be of no benefit to patients (208). A more formal alternative would be to institute direct monitoring of care, tied into the payment mechanism for greater effectiveness.

Another possible approach for quality assurance would be mechanisms that are part of a national network in the mold of Professional Standards Review Organizations (PSROS) and Health Systems Agencies (HSAS). A more centralized network of PSRO- or HSA-like organizations would have the advantage of providing some uniformity of procedure and standards, but at the same time might introduce some rigidities.

PSROS are community-based nonprofit agencies directed by physicians that monitor the quality and appropriateness of institutional health care provided to Medicare and Medicaid beneficiaries. The main virtue of PSROS is that they are already in place, are functioning, and have some involvement in quality assurance. Their main emphasis to date, however, has been on inpatient utilization review. In a competitive environment, utilization review is unlikely to be of great concern, except in cases where catastrophic coverage is involved. Therefore, PSROS would need to shift their focus, emphasizing much more quality assurance functions (i.e., assurance against underuse of necessary services) than they do now and paying less attention to utilization review.

HSAS, in contrast, are charged with developing local health planning goals and implementing plans in consonance with State and National health care goals. Like PSROS, HSAS represent a functioning infrastructure with established methods of information collection, analysis, and dissemination. HSAS could also act as a focal point or clearinghouse for standardized (comparative) information on the technical aspects of quality of care among providers and various services in the local health care delivery system. The Northern Virginia HSA, for example, has demonstrated the feasibility of generating such information (see app. G). HSAS could also act as advocates and brokers for the less sophisticated health consumer such as the poor and the elderly, in a manner analogous to the Project Health organization in Multnomah County, Oreg. (see app. D).

Neither HSAS or PSROS, however, have lived up to expectations or their potential in the past. Part of the problem has been the lack of evaluative information about technologies that was noted above. Despite a 1979 mandate for HSAS to foster competition between providers and plans, few HSAS seem to have revamped their activities in that direction, and the certificate-of-need process is seen as entrenching established providers (79) (see app. G). Although a focal point for assessing and assuring quality of care is indicated under greater price competition, its appropriate location is not clear.