Hospital Quality Competition and the Economics of Imperfect Information

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COMPETITION AMONG HOSPITALS HAS TRADITIONALLY focused on quality rather than price and, in particular, on the availability of medical technology. Price competition has been effectively discouraged by legal and professional barriers to selective contracting, and the dominance of structural measures of quality such as medical technology has been ensured by the paucity of process- and outcome-oriented quality indexes. The hospital environment has been changing rapidly in the past few years, however. Selective contracting on the basis of price is being pursued vigorously by many public and private purchasers of hospital services. Process and outcome measures of hospital performance are proliferating and are being widely disseminated. This has profound implications for the nature of hospital competition.

Economic theory has made its primary contribution to health services research and policy based on its ability to transfer insights gained in the observation of other industries to the health care field. The textbook economic model of the competitive industry, in which well-informed consumers choose among a range of products based on price and quality, underlies much of the current research and policy interest in health care market performance. The emergence of selective contracting and outcome-oriented measures of quality would seem to strengthen this model's claim to being the appropriate analytic framework for studying the health care sector.

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Recent developments in economic theory are moving away from the conventional model of full information and price flexibility, however. This new literature argues that economic transactions often involve an element of insurance, since product quality cannot be fully specified in advance. Concepts familiar to students of the health sector—adverse selection, moral hazard and incentive effects, nonprice competition—are playing increasingly prominent roles in economic studies that cut across industry lines. The key element of these models is persistent consumer uncertainty about product quality. This new body of economic thought has implications for the understanding of health care markets that are dramatically different from those of the conventional model.

This article applies the economic literature on information and uncertainty to the health care sector in three steps. The first section contrasts the new thinking with the old, focusing on models of market "signalling," and of the peculiar roles played by prices and nonprice rationing in markets for goods of uncertain quality. The second section reviews the empirical literature on nonprice competition in the hospital care sector, emphasizing the role of structural measures of quality in signalling strategies. The third section focuses on the recent shift from structural to process- and outcome-based measures of quality and on the role these are likely to play in future competitive strategies that include nonprice rationing and risk selection.

Economic Theories of Product Quality

The Conventional View

In the textbook economic theories of market competition, consumers are assumed to possess full information as to the quality of the goods and services they purchase. High-quality goods cost more to produce than low-quality goods but, since the quality differences are readily apparent to consumers, are able to command high prices. Consumers choose their desired mix of high- and low-quality goods based on relative prices. Prices fluctuate to clear markets. Neither high- nor low-quality goods are left unsold and there exists no unsatisfied consumer demand, given the prices that must be paid. Individual firms accept prices as given by the market, and need decide only what quantity of each type of good they wish to produce. In these markets, price data are "sufficient statistics," containing all relevant information on provider supply, consumer demand, and product quality. Price data can be used to measure quality, with higher prices reflecting higher quality (Rosen 1974).

An alternative theory of market performance has gradually emerged over the past few decades, and has come into prominence in the most recent years, as more and more previously difficult to explain phenomena are being attributed to information asymmetries and consumer uncertainty about product quality. Interestingly, the most prominent figure in this area of research is Kenneth Arrow (1963), whose one foray into health economics is still frequently cited as a classic analysis of the importance of uncertainty for explaining economic behavior. A younger generation of economists has followed in Arrow's steps, producing an intellectual subspecialty under the name of the "economics of imperfect information." To date, these economists have focused primarily on the ways in which suppliers use indirect means to "signal" to consumers the quality of their goods and on the role nonprice rationing plays in allocating goods in markets characterized by consumer uncertainty. This body of generally abstract theorizing has been applied mainly in the fields of macroeconomics, labor economics, finance, and the economics of development. It offers some potentially interesting ideas, however, for understanding the performance of the health care marketplace.

Quantity as a Signal of Quality

Akerlof (1970), in his famous metaphor about the market for used automobiles, portrayed in stark terms the possible consequences of consumer uncertainty concerning product quality for the performance of competitive markets. If substantial variation in quality exists but consumers are unable to differentiate high- from low-quality goods at the time of purchase, they will be unwilling to pay any price higher than that corresponding to a good of average quality. High-quality goods cannot command especially high prices and will be withdrawn from the market by their owners. This will lower the average quality of goods remaining in the market, in turn reducing the price consumers are willing to pay. Goods of intermediate quality whose costs of production were covered by the initial market price find that the new lower price no longer covers their costs, and they are withdrawn from the market. An unravelling process of declining quality and price continues until no goods are traded at all.

The failure of competitive markets where product quality is heterogeneous and unknown to the consumer at the time of purchase generates new forms of behavior by producers and consumers to overcome or at least mitigate the effects of uncertainty. In the subsequently developed economic parlance, economic agents face strong incentives to "signal" the quality of their goods and services. Sellers of the highest-quality goods seek to differentiate themselves from those with slightly lower quality, who in turn seek to differentiate themselves from those with even lower quality, and so forth.

The most famous model of market signalling is that of Spence (1973), who considers the role of educational attainment in indicating for employers the overall intellectual aptitude of potential employees. Employers prefer more-educated to less-educated employees, and are willing to pay them higher wages, not simply because those with more years of schooling may have learned while in school things of immediate use to the employer, but also because those willing to stay longer in school are more likely to be good learners than those who terminate their education earlier. Young people realize this, and plan their educations accordingly. The educational signal carries a true message because the cost of extra years of education is in fact lower for those students with greater intellectual aptitude. Less-apt students find the economic and psychic costs of education signalling to outweigh the benefits.

Shapiro (1983) presents a model in which consumers learn about product quality through experience. They are unwilling to pay a premium price for a premium quality good the first time they purchase it, since they have not had the opportunity to recognize its above-average quality. Firms introducing high-quality goods into the market must post average rather than premium prices, and thereby incur a loss on each unit of the good sold. Over time, high-quality goods earn a good reputation, and the price consumers are willing to pay rises. Prices for high-quality goods will stabilize at levels above the average cost of production, however, since the firms producing them must be able to recoup the losses incurred earlier. In contrast to markets where the quality of goods is immediately apparent to consumers, price competition in markets with significant reputation effects generate prices that stay significantly above costs.

While on one level these signalling models portray admirable self-correcting mechanisms latent in economic markets faced with the problem of consumer uncertainty, on another they identify the potentially high social costs of unregulated market performance, costs that could, in principle, be reduced by nonmarket institutional mechanisms. A signal can only be heard as long as it stands out over and against the background level of noise. As each seller amplifies his or her signal, the background noise level rises, necessitating further amplification on the part of individual sellers. This is clearly undesirable from a social perspective because the signalling mechanism itself imposes costs. Educational signalling, in particular, holds the potential for degree inflation, as students pursue master's degrees to obtain jobs that once were available to those with bachelor's degrees, and doctoral degrees to obtain jobs that once were available to those with master's degrees. Shapiro's reputation model highlights the social benefits of governmental programs that mandate disclosure of quality information or directly regulate quality. Such interventions reduce the level of investment in reputation required of each firm and, by extension, reduce the premium of price over unit cost required to reimburse firms for their investments.

Rationing as a Response to Uncertainty about Quality

Recent work in the economic literature on imperfect information has focused on the role of prices in conveying information to potential consumers about product quality. The informational role of prices influences pricing strategies. This has profound implications for the ability of prices to play the essential role assigned to them in conventional economic theory, that of fluctuating freely to equilibrate supply and demand for each type of good.

In a world of imperfect information, price changes can produce unexpected and undesired effects on the position of those initiating the changes, due to either adverse selection or incentive effects. Adverse selection can occur when product quality is heterogenous and one party to the transaction possesses better information on that quality than does the other party. Incentive effects can occur when initial product quality is homogenous but where one party to the transaction has the ability to influence product quality after the transaction has been completed. In either case, the rational response on the part of producers and consumers trading in markets characterized by imperfect information will be to avoid textbook forms of price competition and develop various forms of nonprice rationing of goods and services.

The type of nonprice rationing most familiar to observers of the health care system is the denial of health insurance to persons with preexisting medical conditions. Nonprice rationing of this sort is, in fact, endemic to most insurance markets. Rothschild and Stiglitz (1976) present the now-classic model of adverse selection in insurance markets where firms hesitate to raise premium levels without imposing restrictions on how great a quantity of insurance may be purchased at each price, for fear of losing their least-risky customers and being left with only the most-risky ones. Insurance markets tend to manifest "price and quantity competition" rather than "price competition." Some limitations on the type of insurance that is offered are due to concerns for incentive ("moral hazard") rather than adverse selection effects.

Adverse selection and moral hazard problems in insurance markets are well known. A key insight of the recent economic literature is that similar problems plague many of the other important sectors of the economy, due to a pervasive difficulty on the part of buyers and sellers to evaluate product quality prior to purchase. Stiglitz and Weiss (1981) extend the analysis of adverse selection and incentive effects to the finance industry, and demonstrate why banks choose credit rationing rather than increases in interest rates in response to uncertainty as to the probability their loans will be repaid. Adverse selection problems exist due to the inherent differences in creditworthiness on the part of different borrowers, while incentive effects result from the tendency of higher interest rates to stimulate more risky investments on the part of even the most trustworthy borrowers. Weiss (1980) explains the dominance of layoff policies over wage reductions in firms faced with a fall in consumer demand, using an adverse selection model that emphasizes the disproportionate effect of wage cuts on quit probabilities for the most productive workers. Akerlof (1982) and Shapiro and Stiglitz (1984) produce similar predictions of layoffs and unemployment rather than wage changes, using incentive rather than adverse selection models. In these models, workers are identical in their productive capabilities, but may vary their degree of work effort in response to the level of wages paid and the threat of unemployment. Stiglitz and Weiss (1983) use similar models to explain why firms fire workers who shirk rather than cut their wages and why banks refuse additional credit to borrowers who default rather than charge them a higher rate of interest on new loans.

One of the potentially most fertile models to emerge from the literature on imperfect information is that of Greenwald (1986), who considers adverse selection problems in markets with three classes of agents, each with different amounts of information. Greenwald's example is the labor market where workers vary as to their productive capacities. The conventional adverse selection model of the labor market compares the worker, who is presumed to know his or her capabilities, with the firm considering the worker's application for employment in the absence of good information. Greenwald inserts between these two agents a third, namely the worker's current employer, who has had experience with the worker and thus possesses an informational advantage over the firm who has none. Current employers will match the wage levels offered by competing firms to their good employees, but will not match wage levels offered for their bad employees. Firms price-competing for employees will thus find the mix of workers actually willing to change employers to be disproportionately composed of the least-productive workers. By analogy, banks competing for market share by cutting interest rates will find that their competitors will selectively match the lower rates for their lower-risk customers but will not match those rates for their higher-risk customers.

The burgeoning literature on the economics of imperfect information has identified two basic market responses to uncertainty about product quality: signalling and nonprice rationing. A wide variety of important economic problems are being traced to these behavior patterns. The implications of this body of research for the special issues at stake in health economics have not been fully examined, however. Why this has not yet occurred is itself an interesting question, given the obvious prominence in the health sector of signalling and rationing devices. One possible explanation has been the importance in the health care industry of legal prohibitions on price competition: bans on advertising, laws preventing insurance plans from excluding particular providers from coverage, the exemption of some practices by health professions from antitrust laws, and so forth. These legal obstacles to price competition, and the efforts to overcome them, have drawn considerable attention and have perhaps created an intellectual climate in which it is believed that their removal would create a medical care marketplace that operated according to the rules of introductory economics textbooks. Removal of legal prohibitions on price competition will certainly help stimulate price competition, but the new medical marketplace may resemble the scenarios developed by the literatures on signalling and rationing more than the textbook scenario. A key feature of the signalling and rationing models is that they postulate neither legal nor technological barriers to full and free price competition. The only blemish on the system is endemic consumer uncertainty about product quality.

The process by which the economic literature in imperfect information is applied to the health care sector is sure to be a long one, and one requiring contributions from many areas. In beginning to think about the continuing influence that uncertainty about quality will play in increasingly price-competitive medical markets, it might be wise to consider the forms quality competition has taken in the recent historical period when price competition was still very limited.

Structural Measures of Quality: The Role of Signalling

The quantity signalling model has found an echo in the health economics literature in the theory of the "medical arms race." Hospitals are interpreted as engaged in a competitive process of differentiating themselves from one another in the eyes of physicians and patients based on the clinical services they provide. Advanced clinical technologies and highly trained support staffs are acquired not only for the specific diagnostic and therapeutic procedures they allow the hospital's physician staff to perform, but also for the general cachet of state-of-the-art technological preparedness they lend to all of the hospital's activities. This theory of nonprice competition has been applied to the study of three dimensions of hospital performance: bed capacity utilization, staffing, and availability of clinical services. Each of these can be treated as a "structural" measure of hospital quality.

The first empirical work on nonprice competitive strategies in the hospital sector focused on capacity utilization, the pattern of bed occupancy rates. This was a logical focus of research, given the widespread perception during the 1970s of a "crisis" in excess beds. This perceived excess of capacity was blamed for high costs and unnecessary hospitalizations, and spawned an elaborate health planning and certificateof-need bureaucracy. Harris (1977) and Joskow (1980) emphasized the role played by excess capacity in hospital competition for physician affiliations. Physicians prefer affiliations with hospitals that never have problems accommodating new patients on the date the physician seeks to admit them. Hospitals in competitive local markets are under greater pressure than isolated hospitals without nearby competitors to maintain excess capacity for this reason. Joskow (1980) reported greater excess capacity in competitive compared to noncompetitive markets.

In considering bed occupancy rates, it is useful to disaggregate them into three components: beds, admissions, and length of stay. The rate of admissions is largely outside the control of the hospital administration, being determined by epidemiological patterns of disease and by physician practice patterns and patient preferences. The number of available beds is under the administration's control, but is not a factor that can be adjusted quickly in response to fluctuations in admissions. Length of stay, however, is a factor that is partially under the control of the hospital administration and that can be adjusted as needs arise for open beds. Through their policies concerning use of pre-admission diagnostic procedures, admissions on Friday (when surgery is not scheduled on weekends), and discharge protocols, the hospital administration can influence the physician's decision concerning length of stay. Robinson et al. (1988) found average lengths of stay for each of ten surgical procedures to be higher in competitive than in noncompetitive markets.

Staffing is perhaps the single most visible feature of the hospital care process. Both physicians and patients tend to view hospitals who use more highly trained staff (i.e., registered nurses rather than licensed practical nurses) as providing care of better quality. Hospitals in competitive local markets are under more pressure than hospitals in less competitive markets to signal their quality through the hiring of these more highly trained workers. Needless to say, higher levels of training will manifest themselves in statistical studies as higher levels of wages. This association between market structure and wage rates is consistent with the monopsony model, according to which competition among hospitals weakens their ability to collude in holding down wages. Employment levels are also potentially influenced by the degree of nonprice competition, since high staffing ratios are associated with more comfortable hospital stays and possibly with better clinical outcomes. Sloan and Elnicki (1978) and Feldman and

Scheffler (1982) found hospital wage rates to be higher in competitive than in concentrated markets. Robinson (1988) found that hospitals in the most competitive local markets hire more registered nurses and more nonnurse personnel than otherwise comparable hospitals in less competitive markets. These hospitals substituted registered for licensed practical nurses more frequently than did hospitals in other market environments.

The acquisition by hospitals of specialized clinical services as a means to attract physician affiliations and patient admissions has been the subject of considerable discussion in the health services literature, but has spawned relatively few empirical studies. Some of the interest accorded to this particular strategy stems from the possibility that market-driven duplication of clinical services in adjacent hospitals could lead to lower average volumes per service than would be the case if patients needing a particular service were all referred to the same hospital. Low volumes undoubtedly generate high average costs, given the large initial expenditures required to set up clinical services. Of equal importance, low hospital volumes have been associated with poor clinical outcomes for a number of common medical and surgical procedures.

The broadest survey of market influences on clinical service availability is that of Luft et al. (1986), which examined the influence of competition in the local market on the probability that individual hospitals maintained each of 29 specific services. Significant evidence of market-related service duplication was found for 19 of the 29 services. The availability of comparable services in adjacent hospitals reduced the probability individual hospitals maintained 7 of the 29 services, suggesting that some implicit regionalization did occur. Romeo, Wagner, and Lee (1984) found a mixed pattern of competitive effects in their study of diffusion patterns for five "small-ticket" medical technologies. Robinson, Garnick, and McPhee (1987) found that the availability of competing open heart surgery facilities and cardiac catheterization laboratories within the local market significantly increased the probability that coronary artery bypass graft surgery and percutaneous transluminal angioplasty were performed in individual hospitals. This market-related duplication of cardiac services was found responsible for the prevalence of low-volume cardiac surgery facilities in competitive hospital markets.

The influences of competition on hospital bed capacity utilization, wages, staffing, and clinical services combine to create a style of care that is considerably more expensive in competitive local markets than in noncompetitive local markets. Robinson and Luft (1987) found average costs per admission in 1982 were 25% higher in competitive than in noncompetitive markets, controlling for patient case mix, hospital teaching role, ownership type, and other relevant factors.

Outcome Measures of Quality: The Role of Rationing

Nonprice competition in the hospital industry has, until recently, utilized structural measures of service quality. The availability of specific clinical technologies and support staffs is, at best, a precondition for a good process and outcome of care, however. The value of these structural measures has declined over time, moreover, precisely owing to their use as quality signals. The medical arms race has spurred the diffusion of clinical technologies in competitive hospital markets and thus raised the background noise level against which the original quality signal struggles to be heard.

Increasing dissatisfaction with structural measures of quality, especially on the part of large purchasers of health care, has encouraged the development of measures focusing on treatment outcomes. Procedure-specific rates of death, complications, and readmission are becoming available. Several abstracting services collect patient discharge data from hospitals. Peer review organizations are beginning to collect such data on Medicare patients, and several states require all hospitals to provide such information to a public agency. These data are often directly accessible to patients, as newspapers publish outcome statistics for hospitals in their local area. Individual hospitals with better than average performance are increasingly using this fact as part of their marketing efforts.

The development of outcome statistics could herald the advent of true price competition, as modelled in economics textbooks. In this scenario, newly informed consumers and third-party payers would be allowed to choose from a spectrum of care options with different levels of quality and price. High-quality care would command a high price. Price competition based on outcome measures of quality would eliminate the medical arms race based on structural measures of quality. Scitovsky (1945), in a paper that might be considered the grandparent of the signalling literature, pinpointed the availability of direct information on quality as a necessary condition for price competition and the absence of such information as a sufficient condition for nonprice competition.

While often praised as being direct measures of the quality of medical care services, outcome statistics are in fact as strongly influenced by the severity of the patient's disease at the time treatment is begun as they are by the quality of the treatment administered (McAuliffe 1979). Users of outcome statistics seek to control for patient case mix severity, but such efforts are crude since they are usually limited to data included in hospital discharge abstracts. After controlling for measurable dimensions of case mix, there remains variation in outcomes due to unmeasured case mix differences as well as differences in the medical care process.

The importance of unmeasured case mix differences for market performance is substantially increased because the development of outcome measures of quality has been accompanied by a shift on the part of health insurers from cost-based to prospective reimbursement of providers. Prospective payment usually requires the grouping of patients into diagnosis or procedure categories according to their expected level of utilization. Payments are made to providers according to the number of patients in each category, with the payment rate for each category set at the level of cost generated by an efficient method of treatment. Within each category there will exist variation in actual utilization and costs, owing to remaining within-group variation in disease severity. This within-group variation can be reduced by creating more groups. Ever finer patient categories reduce the number of patients in each group and, at the limit, cause a reversion to cost-based reimbursement (one patient per group).

Outcome statistics depend upon patient case mix as well as on the quality of care rendered. Profits in a prospective payment financing environment depend upon patient case mix as well as on the efficiency of the care rendered. Providers can generate good outcome statistics and earnings levels by choosing a high-quality, cost-effective style of treatment. The same results can be obtained, however, by avoiding especially sick patients within each diagnostic or procedure group. Relatively healthy patients will have generally good outcomes, regardless of what is done to them, and will require relatively few economic resources.

The simultaneous development of outcome quality measures and prospective payment systems, with their mutual dependence on patient case mix, raises the possibility that competition in the emerging health care marketplace will include more than a negligible element of patient selection. This, in turn, suggests that the recent economic literature on nonprice rationing as a response to consumer and provider uncertainty may have as much to teach us as traditional economic models of price competition among goods of known quality. An adaptation of Greenwald's (1986) model of three-way risk selection, involving the patient, his or her current health care provider, and the universe of other providers, is an obvious starting place.

Nonprice rationing has commonly occurred in the market for individual health insurance, in the form of denial of coverage to individuals with pre-existing conditions. Most persons with high expected health care costs have achieved coverage, however, either through employment-based plans or through governmental entitlement programs. Providers could traditionally afford to treat the minority of patients who did not obtain insurance coverage because of the willingness of insurance companies to absorb the shifting of charges from the uninsured to the insured. Prospective payment and selective contracting by these private insurers is rapidly reducing the providers' abilities to cross-subsidize the care of the uninsured. This, in turn, has led to the widely discussed "dumping" of uninsured patients by community physicians and hospitals onto governmental institutions.

As the health care marketplace becomes increasingly cost conscious, rationing in this sense is bound to extend beyond the totally uninsured patients to those patients who, although insured, are undesirable to providers since they are likely to generate costs above the prospectively determined rate for their diagnosis and outcome statistics worse than expected, given the relatively crude statistical adjustments that are possible. Gatekeeper models in the rapidly growing HMOs give physicians incentives to refer high-cost patients selectively to other delivery settings. Hospitals can influence their patient mix by structuring the mix of services they offer and their linkages with community physicians so that undesirable patients never appear on their wards. Undesirable patients who do appear can be transferred to other hospitals, especially to tertiary care institutions used to dealing with sick patients.

The rapid vertical integrations of hospitals, ambulatory care clinics, and physician practices suggests that the major health care providers of the future will tend to treat relatively stable and defined patient populations in a manner analogous to that developed by health maintenance organizations. A considerable empirical literature already exists on biased selection in the matching of patients with health plans. As reviewed recently by Luft and Miller (1988), this literature suggests that individuals switching from indemnity plans to HMOs tend to utilize somewhat fewer services and incur somewhat lower costs than comparable individuals who stayed with the indemnity plans. The key difference between the HMOs and the indemnity plans in these studies is that the former are paid prospectively based on measurable patient characteristics while the latter are reimbursed retrospectively, based on experienced costs for their subscribers. Biased selection can also work against HMOs. Employers possess a number of potentially effective techniques for encouraging employees who use lots of medical services to switch from the employer's experience-rated or self-insured plans to HMOs that charge community rates (Wagner 1988).

A clear need exists for an intermediary between the individual patient and the increasingly integrated provider networks that is competent to evaluate structure, process, outcome, and price data. Among proponents of market-oriented strategies, McClure (1985) has been prominent in advocating that employers and governmental bodies, who ultimately pay health care costs, become active in evaluating the quality of care. McClure condemns as short-sighted a single-minded focus on cost containment, arguing that large purchasers should "buy right" by demanding quality as well as price data from providers. Enthoven (1986) and Luft (1986) advocate for purchasers a more active role in counteracting the effects of unfair competition between health plans. Enthoven, in particular, warns against a long list of nonprice competitive strategies health plans can use in an unregulated health care marketplace: manipulation of benefits to screen out patients with chronic diseases, product differentiation to segment the market and reduce price competition, design of benefits and information on benefits in such a way as to impede comparisons of different plans. He views a deregulated health care system as one invariably tending to stifle price competition; active vigilance by purchasers is necessary to strengthen the invisible hand. The role of third-party "sponsors," in Enthoven's language, is to use a judicious mix of voice and exit strategies to counteract the effects of service duplication (i.e., signalling) and risk selection (i.e., nonprice rationing).

Conclusion

The health care sector is conventionally viewed by economists and noneconomists alike as behaving differently from the rest of the economy. This difference is usually traced back to governmental tax and regulatory policies that encourage the purchase of comprehensive insurance by consumers and discourage price-competitive behavior by producers. With some exceptions, economists have been hostile to these governmental interventions, and have recommended policies of tax reform and institutional deregulation that would narrow the distance separating behavior in the health care sector from that in the rest of the economy. Implicit in this policy agenda lies the assumption that the elimination or reduction of governmental interference would stimulate the health care sector to behave in the price-competitive manner described in standard economic textbooks. This would, in turn, produce a more cost-effective style of medical care organization and delivery.

Reductions in health insurance coverage, enforcement of antitrust statutes, elimination of legal prohibitions on selective contracting, and other institutional developments are producing dramatic changes in the ways in which the health care sector behaves. Price sensitivity among consumers and price competition among providers are spreading. It is far from obvious, however, that the health care system will come to resemble the textbook economic models. This piece of skepticism comes from an unexpected source—recent developments in economic theory itself. The proliferating literature on the economics of imperfect information suggests that consumer uncertainty about product quality can make even the most price-competitive markets behave in unusual and socially undesirable ways. In direct contrast to the deregulatory tone traditionally adopted by economic analysts, this new body of economic thought argues that intelligently designed regulations can improve market performance and increase social welfare.

The empirical importance of this new body of theory for explaining behavior in the economy is still being tested and, as such, the validity of its policy recommendations is still unproven. At a minimum, however, the emergence of this alternative body of economic thought should give pause to policy makers in the health care sector, lest they rush headlong down a deregulatory path guided by an analytic model increasingly abandoned by its original proponents.

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