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Author
Robinson, James C

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James C. Robinson

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Health care organizational structures support alternative combinations of payment and nonprice incentives for physicians, hospitals, and other providers. Changing perceptions among purchasers of the relative effectiveness of particular mechanisms lead to changes in the market shares held by particular organizational structures. This paper uses principal–agent and transactions cost economics to develop a conceptual matrix for understanding organizational innovation in the health care system. It contrasts the differing incentives in retrospective versus prospective payment mechanisms, arms-length review versus peer review mechanisms for controlling inappropriate utilization, and "free choice of physician" versus selective contracting mechanisms for structuring the basic insurer–provider relationship.

Recent initiatives to reform the health care system have emphasized price mechanisms under the assumption that health plans and health care providers respond primarily to financial incentives. The new payment systems have seen their effectiveness limited, however, by opportunistic responses such as the "unbundling" of previously grouped treatments and increases in the volume of services. Public and private purchasers therefore are developing nonprice incentives, such as selective contracting and utilization controls, which directly influence consumer choice among alternative providers and provider choice among alternative treatments. Individual price and nonprice mechanisms cannot be mixed and matched arbitrarily but, rather, work best in particular organizational combinations. Changing perceptions of the efficacy of individual incentive mechanisms, therefore, lead to changing market shares for particular organizational structures.

Recognition of the importance of organizational structure creates new potential linkages between health services research and mainstream economic theory. After decades of neglecting organizations as "black boxes," economics is focusing on the comparative performance of alternative organizational and contractual relationships such as "spot" contracting, vertical integration, and complex "relational" contracting. Principal–agent models are used to explore the usefulness of price and nonprice incentives under conditions of uncertainty and opportunism (for reviews, see Stiglitz [1987], Sappington [1991], and Eisenhardt [1989]). Transactions cost economics interprets organizations as governance structures that fill in the gaps of the formal contractual agreements and offer credible commitments to continued nonopportunistic behavior (for a review, see Williamson [1985]).

The methodological approach common to the various constituents of the new institutional economics

***James C. Robinson, Ph.D.,** is associate professor of health economics and policy, School of Public Health, University of California at Berkeley. Address correspondence to the author at the School of Public Health, University of California, Berkeley, CA 94720.*

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is to identify the contractual hazards in a particular context (e.g., information asymmetries, opportunistic tendencies, nonredeployable investments) and the feasible control mechanisms (e.g., price and nonprice mechanisms, contractual relationships, organizational forms). The analysis is comparative, evaluating performance within the feasible set of alternatives rather than fabricating contrasts between feasible "second best" strategies and infeasible "first best" ideals. This comparative approach highlights the relative efficiency of alternative combinations of incentive mechanisms and identifies different organizational structures in terms of which combinations they best support. Changes among organizations in relative market share are ascribed to changing demands for particular sets of incentive mechanisms.

This paper explores the potential utility of institutional economics for health services research and policy. It examines the incentives inherent in retrospective, prospective, and mixed payment mechanisms, highlighting the limitations of price incentives alone to control the contractual hazards of medical care. It then examines the role of two important sets of nonprice incentives, utilization review and selective contracting. Finally, the principal organizational forms in the private health care market are analyzed in terms of the support they provide for alternative combinations of price and nonprice incentives.

Price Incentives: Mixed Payment Mechanisms

The undesirable incentives generated by retrospective provider payment mechanisms such as "usual and customary" for physicians and "reasonable cost" for hospitals have created widespread support for various forms of prospective payment. Prospective payment mechanisms, such as capitation for physicians and "diagnosis related groups" for hospitals, give providers incentives to control expenditures and develop a more cost-effective style of practice. They create an alternative set of socially undesirable incentives, however. Prospective payment encourages providers to reduce the value of the treatment for which they receive a unit of payment, either by "unbundling" and pricing separately procedures that previously were offered for a single price, and/or by reducing time and resources and thereby shading the quality of the treatments. Prospective payment also motivates providers to pay attention to the epidemiological risk of their patient population, since particularly sick patients will prove unprofitable even with very cost-effective treatment styles (Ellis and McGuire 1986; Berenson 1987).

We are witnessing, therefore, the emergence of mixed payment modes that combine prospective and retrospective features (Hillman et al. 1991; Gruber et al. 1989). Some health plans reimburse physicians on a fee-for-service basis but withhold a percentage of payments, most commonly 10% to 20%, until the end of the year. These withholds are distributed to the physicians if overall costs fall at or below the budgeted level; otherwise, they are retained by the health plan. Some plans establish the capitation rate for a group of physicians rather than for each physician individually. Each physician within the pool is paid on a fee-for-service basis within the limits of available funds. Many plans absolve capitated primary care physicians from direct financial responsibility for referral costs, but encourage them to reduce referrals by offering an end-of-year bonus from the budgeted funds for specialist payments. Hospitals are also increasingly paid on a mixed basis. Formally retrospective reimbursement systems incorporate an element of prospective payment to the extent payers establish an expected length of stay and threaten denial of payment for services provided beyond that limit. Formally prospective reimbursement mechanisms such as Medicare's DRG system embody an element of retrospective payment through the "outlier" payments for especially sick patients.

There are inherent limits to what can be achieved through the fine-tuning of payment mechanisms. Every movement toward prospective reimbursement increases incentives for unbundling, undertreatment, and risk selection. Every compensating movement back toward retrospective reimbursement revives the traditional incentives for cost-unconscious practice styles. Mixed payment mechanisms have much to recommend them and further experimentation is to be expected. Experience over recent years suggests, however, that the problem is one that cannot be solved by payment mechanisms alone. Two additional approaches are possible. Utilization review mechanisms impose direct controls on unnecessary and inappropriate utilization. Selective contracting mechanisms construct relationships with limited panels of providers who have demonstrated their willingness to limit fees and maintain a conservative style of practice.

Nonprice Incentives: Utilization Review

While gingerly experimenting with novel payment methods, health insurers have dramatically increased the use of nonprice controls on utilization (Payne 1987). By 1990, 79% of indemnity plans required preadmission certification for hospitalization; 68% required concurrent review to evaluate length of stay; 52% required mandatory second opinion prior to surgery; and 67% required case management for exceptionally high-cost patients (Sullivan and Rice 1991). These contractual provisions offer the possibility of reductions in inappropriate hospitalizations and can be implemented within a context of conventional fee-for-service payment and no limits on consumer choice of physician. They require the least by way of change in the other dimensions of the insurer-provider relationship. Their limitations are clear, however. At best they are cost-effective only for big-ticket items such as hospitalization and major outpatient surgeries, whereas medical care costs are increasingly incurred through numerous, small-ticket consultations and procedures. They are expensive to implement and can be circumvented by physicians willing to insist that their patients are unique and their procedures absolutely necessary.

The alternative to arms-length utilization review is a realignment of provider incentives in a manner compatible with the insurer's concern for cost-effectiveness. Payment modes that include prospective elements contribute to this realignment but need to be accompanied by changes in the culture of medical care provision to encourage a cooperative, nonadversarial relationship. In the United States, physician concern for appropriateness and cost-effectiveness historically has occurred most systematically within multispecialty group practices. Group practice provides an organizational and contractual context congenial to ongoing peer review and education. Physicians in group settings frequently adopt a relatively conservative practice style even when reimbursement continues to be made on a fee-for-service basis (Scitovsky and McCall 1980; Nobrega et al. 1982; Greenfield et al. 1992). A physician culture promoting cost-effectiveness offers clear advantages to arms-length utilization review. But it is correspondingly difficult for insurers to achieve within the traditional indemnity relationship, which guarantees to consumers an unlimited choice of provider.

Nonprice Incentives: Selective Contracting

Selective contracting was originally promoted within the insurer community as a means for obtaining volume discounts from physicians and hospitals. In exchange for lower fees, providers were promised more patients; patients were given financial incentives to use contracting ("preferred") providers. The volume-discount interpretation of selective contracting implies that insurer choice of particular physicians and hospitals is relatively unimportant, so long as the number chosen is sufficiently small so that significant new patient flows can be generated. Over time, however, a new interpretation of selective contracting has emerged that focuses on the importance of identifying high quality practitioners rather than achieving volume discounts. Some providers are less given to evasions of payment and utilization review incentives than are others. Important benefits are potentially achievable by health plans that limit their contractual relationships to these more cost-effective practitioners.

Selective contracting programs vary widely. At one extreme, some plans cover all licensed physicians and are selective only with respect to hospitals. At the other extreme, some plans contract with closed panels of physicians who obtain all their patients from one health plan. In between, plans contract with moderate numbers of physicians, many of whom obtain the majority of their patients from nonselective indemnity insurance plans. Selective contracting creates an explicit contractual relationship between health plans and providers that contrasts with the implicit indemnity contract with all licensed physicians and accredited hospitals. Over time, selective contracting provides the framework within which incentive-conscious reimbursement methods and cooperative utilization review programs can be developed.

More exclusive contracting programs with more limited provider panels offer stronger possibilities for insurer-provider incentive alignment than do looser programs with larger, open panels. The extreme case is the staff model HMO, where the insurance and delivery functions are united in a single firm. Full vertical integration of this sort generates resistance from many physicians and consumers, however. For the foreseeable future, the organizational landscape of American medicine will be dominated by intermediate structures that rely

Selection mechanisms, incentive mechanisms, and organizational forms in health care

Controls on provider behavior	Number of providers covered		
	All (free choice)	Many (open panel)	Few (closed panel)
None	Unmanaged indemnity (5%)	—	—
Arms-length (utilization review)	Managed indemnity (57%)	Preferred provider (PPO) (13%)	Independent practice HMO (11%)
Cooperative (incentive realignment)	—	—	Prepaid group HMO (14%)

Sources: Sullivan and Rice (1991), Kraus, Porter, and Ball (1991).
Note: Percentage figures represent 1990 shares of group health insurance market.

on highly complex contractual relationships rather than unified ownership.

Organizational Innovation

The Figure above presents a conceptual framework for classifying organizational relationships between insurers and providers in terms of the incentive mechanisms they support. On the horizontal axis is the selectivity of the contractual relationship, measured as the number of providers whose services are covered by the health plan. It ranges from no explicit contracting ("free choice of provider") through moderately selective contracting ("open panel") to exclusive contracting ("closed panel"). On the vertical axis are the nonprice incentives in the contractual relationship, measured qualitatively as the type of utilization control program. They range from no controls, through arms-length "utilization review," to cooperative "incentive realignment." The principal organizational structures of medical care, with their 1990 share of the private group market, are distributed among the cells of the matrix. (The third possible dimension to the matrix, type of payment mechanism, is omitted to simplify the analysis. Empirical insights into the correlations between price and nonprice mechanisms can be obtained from Hoy, Curtis, and Rice [1991] and Gold [1991]).

The traditional contractual relationship between insurers and providers of health care places no limits on consumer choice of provider and no limits on provider choice of treatment style. It is located in the first row and first column of the Figure. This "unmanaged" indemnity insurance is the health care analogue to what economists refer to as "spot contracting," a relationship with the least continuity and commitment between buyers and sellers (Williamson 1985). It offers no effective constraints on opportunistic behavior and has suffered tremendously in the competitive environment of recent years. From virtually complete dominance of the group health insurance market 20 years ago, it had declined to 41% by 1987 and collapsed to 5% by 1990 (Sullivan and Rice 1991). Much of its previous enrollment has shifted to "managed" indemnity, which adds arms-length utilization review programs to the traditional indemnity relationship but does not contract selectively with providers. Managed indemnity is located in the second row and first column of the Figure. Managed and unmanaged indemnity still dominated the national market in 1990, with a combined share of 62%. This, however, represented a substantial decline from the 73% share held only three years earlier.

The polar opposite of unmanaged indemnity is the "prepaid group practice" form of HMO, which combines exclusive contracting between insurers and providers with a cooperative approach to utilization review and control. It is located in the third row and third column of the Figure. It exemplifies the "vertical integration" of previously independent agents and organizations, that is, market relationships between firms are replaced by administrative relationships within a single firm. This organizational form combines the group practice model for physician peer review and education with the prepayment incentives for cost-effective practice styles. There is little role for the arms-length, anonymous utilization review programs found in managed indemnity. Conflict between providers and the health insurance component of the relationship is resolved through administrative mechanisms. This internal negotiation can be highly stressful and in some cases has threatened the viability of the organization. Overall, however, the prepaid group practice has proven itself an organi-

zational success, with a 1990 national market share of 14% and much larger shares of local markets where it was established early (Kraus et al. 1991; Sullivan and Rice 1991).

Prepaid group practice HMOs have difficulty penetrating new markets where consumers are reluctant to break existing relationships with providers and where providers cannot fill their practices with enrollees from just one plan. The Independent Practice Association (IPA) HMO limits enrollee choice to a closed panel of primary care physicians, denying coverage to noncontracting providers, but does not require providers to restrict their practices to enrollees from the HMO. Physicians generally continue to practice in their own offices rather than in multispecialty group settings. This lack of physical and social integration forces IPAs to rely on arms-length utilization review programs that resemble those in managed indemnity. They are located, therefore, in the second row and third column of the Figure. IPAs grew explosively during the 1980s due to their relatively modest start-up costs (compared to prepaid group practice models), reaching a 1990 market share of approximately 11%.

The central position in the Figure, representing intermediate selectivity in provider contracting and arms-length utilization review, is represented by Preferred Provider Organizations (PPOs). PPOs were born in the early 1980s and had achieved a 13% market share by the end of the decade. They contract with a moderate number of providers and require less cost sharing from consumers when they use these "preferred" providers; partial coverage is offered for nonpreferred provider services. PPOs resemble IPAs in terms of the independent, office-based physicians with whom they contract and onto whom they are able to impose only an adversarial, arms-length form of utilization review.

The relationship between the health plan and the provider within an IPA or PPO is neither the spot contract of traditional indemnity insurance nor the vertical integration of a prepaid group practice HMO. Rather, it assumes an intermediate form, embodying elements of both. Institutional economics designates this type of complex and close relationship between formally independent entities as "relational contracting." In contrast to spot contracting, these relationships are more costly to create and hence participants are more reluctant to switch. Compared to vertical integration, however, relational contracting retains the legal separation of the parties and provides a much stronger exit option. Needless to say, different IPAs and PPOs manifest quite a spectrum of relationships, from very loose to very tight. There has been a clear trend toward closer and more continuous relationships over time, however.

A striking feature of the Figure is the relatively large number of blank cells, organizational structures that are not viable in the current health care marketplace. Unselective "free choice of provider" contracting prevents insurers from developing cooperative utilization review programs, as evident at the bottom of the first column. As managed indemnity plans feel competitive pressures to control costs, they are shifting enrollment to PPO and HMO arrangements rather than attempting to control utilization more effectively without limiting provider panels. As evident at the bottom of the second column of the Figure, selective but not exclusive contracting programs also fail to provide the context for cooperative approaches to utilization and appropriateness review, which apparently are feasible only in a group practice setting. As evident at the top of the second and third columns of the Figure, health plans that devote the resources necessary to contract selectively or exclusively with providers do not waste that investment by forgetting nonprice utilization controls.

Conclusion

Health economics and much of health services research has focused on the advantages and disadvantages of individual price and nonprice mechanisms for influencing the performance of the health care system. This mechanism-oriented tradition of research, which implicitly, if not explicitly, embodies a principal–agent framework, has had a major influence on health policy through payment reform, appropriateness review systems, and the development of outcome statistics on quality. We are now witnessing, however, the limitations of health policies that focus exclusively on individual payment and utilization control mechanisms. Effective, long-term reform of the health care system must involve continuing reevaluation of the organizational structures of service delivery and insurance. The new institutional economics offers the possibility of embedding our growing understanding of incentives within a larger appreciation of the role of organizations as governance mechanisms.

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