

# Economic Aspects of Mental Health Carve-Outs

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## Abstract

**Background:** Recent empirical research has found behavioral health carve-outs in the US to reduce costs immediately and considerably, compared to indemnity insurance and HMOs. Carve-outs have quickly captured a large part of the organized market in US behavioral health. At the same time, market concentration has increased significantly.

**Methods:** The current paper uses concepts and results from the industrial organization and transaction cost literature to explain (i) why carve-outs hold cost advantages over other institutional arrangements, (ii) why these hold in particular for behavioral health and (iii) why this did not happen earlier.

**Results:** The main explanatory variables relate to economies of scale, the avoidance of diseconomies of scope, and the avoidance of personal relationships. The sometimes surprising lack of explicit risk-taking by carve-outs and of explicit cost-reducing incentives in carve-out contracts are more than overcome by incentives created from gaining large contracts. The specific advantages of carve-outs in behavioral health derive from a combination of lack of economies of scope with other health services, lack of economies of scale in provision of behavioral health and presence of economies of scale in management. It is conjectured that behavioral health carve-outs have benefited from biomedical innovations that changed the direction of treatments, from computerization that enables large-scale standardized management and from financial pressures on the behavioral health sector.

**Discussion:** The empirical basis for the current study is a number of case studies and the rapid penetration of mental health carve-outs in the US. Cost reductions caused by such carve-outs appear to be quite robust. Explaining cost reductions from institutional changes has to start with the question of why the old institution did not implement the same or similar changes. We have emphasized reasons why such changes were not feasible under indemnity insurance and HMOs. Nevertheless, we have not been able to evaluate quality changes that might have accompanied those cost reductions.

**Implications for Health Policy:** While further cost reductions may follow a logistic curve, which simply flattens out, there are developments, regulatory and legal in particular, that could lead to a regression of carve-out costs towards those under other institutional arrangements. Thus, the main health policy questions arising from this study are to what extent the freedom of carve-outs to hold costs down should be upheld and to what extent the cost reductions should be used to increase behavioral health coverage.

**Implications for Further Research:** I see three main avenues for further research. The first is to find more empirical evidence for the hypotheses developed in this paper. The second is to look for other countries and other areas of health care with characteristics that would lend themselves to the application of carve-outs. The third is to analyze the quality aspect of carve-outs. The empirical question here is 'What has been the effect of carve-outs on the quality of behavioral health care in the US?'. The theoretical question is 'What are the incentives of the sponsors of carve-out plans and of the carve-out management to assure quality provision of care?'. Copyright © 1999 John Wiley & Sons, Ltd.

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## Introduction

In spite of a lot of folklore about the superiority of one organization or institution over another it is usually difficult to substantiate such claims in empirical work. In fact, 'it is hard to find systematic differences in productivity and efficiency between profit-making, nonprofit, and publicly-controlled organizations'.<sup>1</sup> This statement basically holds for all institutions and organizations. There may be a trivial explanation for this observation. As a matter of empirical research, valid comparisons can only be made under circumstances in which all the organizations and institutions compared coexist. One could therefore argue that similar performance is a consequence of social Darwinism. We only see fit institutions survive. However Darwinism also tells us that there are no quantum leaps.

More astonishing are the recent findings on mental health carve-outs in the US, for example, by Goldman *et al.*<sup>2</sup> Ma and McGuire,<sup>3</sup> Callahan *et al.*<sup>4</sup> and Frank and McGuire.<sup>5†</sup> These authors find an immediate quantum leap in cost reduction compared to indemnity insurance and HMO, once mental health carve-outs are used instead of HMOs or indemnity insurance schemes. This is even more astonishing as, in most of the cases analyzed by these authors, no explicit incentives for cost reduction can be found in the contracts governing the relationship between carve-outs and payers (employers or state governments). While the cost effects are clear and dramatic, the quality effects are ambiguous. Since cost reductions are at least partially

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†In the following, we use mental health, MH/SA (mental health and substance abuse) or behavioral health interchangeably.

the result of restrictions of services, quality could have deteriorated. This is, however, not so obvious, since service management could provide for more effective, though less costly, treatment. Reemphasizing the findings of the above authors has been the rapid market penetration of carve-outs. This mitigates the hypothesis that the cost-reduction findings could simply be the result of a selection problem of individual case studies ('lowest hanging fruits first').<sup>6</sup> Within a few years, carve-outs have become the dominating force in the organized market in US behavioral health. At the same time, within the carve-out market segment there has been increasing concentration.\* This has, at least in part, been achieved by a merger wave between carve-outs.

While carve-outs have for now conquered the behavioral health sector, there has been no similar development in physical health care, although some other specialty carve-outs are taking off. This holds, for example, for hospitalists.

This paper takes off from the above empirical findings and tries to explain (i) the cost-cutting advantages of carve-outs over insurance and general managed care for the special case of mental health, (ii) the trend towards increasing concentration in the carve-out market and (iii) the timing of carve-out success and its restriction to the MH/SA sector. It uses industrial organization and transaction cost analysis. The main explanations

- (i) for cost-cutting advantages over indemnity insurance are economies of scale through selective purchasing and the avoidance of demand-side moral hazard,
- (ii) for cost-cutting incentives over staff model HMOs are arms-length relationships with providers,
- (iii) for (weaker) cost-cutting incentives over group model HMOs, IPAs and PPOs are economies of specialization (product-specific economies of scale and lack of diseconomies of scope),
- (iv) for increased concentration are economies of scale and reputation effects,
- (v) for cost cutting in spite of weak contractual incentives are economies of scale in management, single-sourcing and reputation effects,
- (vi) for the timing of carve-out success are changes in relevant variables, such as biomedical innovations that triggered new treatments, computerization that improved large-scale standardized management, and financial pressures to reduce costs,
- (vii) for the restriction of carve-out success on the MH/SA sector is a combination of (a) a lack of economies of scope with the provision of physical health services, (b) lack of economies of scale in the provision of MH/SA service and (c) presence of economies of scale in managing MH/SA care.

The paper is organized as follows. In the second section we give stylized descriptions of the players and the institutional arrangements. The third section provides our

analysis of MH/SA carve-outs. The paper ends with conclusions and an outlook.

## Institutional Setups

### *Potential Players*

In order to explain the performance of carve-outs we have to contrast carve-outs as a new institutional (or organizational) setup with alternative or competing institutions. We characterize institutions by the players involved and by the relationships that institutions establish between players.

The main potential players in the sector affected by behavioral health carve-outs are

- (i) patients/enrollees,
- (ii) sponsors: employers or states (as employers or Medicaid administrators) as payers of health services,
- (iii) insurers,
- (iv) managers (management of a health plan and of the patient/provider relationship),
- (v) providers of health services and
- (vi) regulators/antitrust authorities.

They are 'potential' players because a particular player may be present under one institutional setup and absent or part of a different player under another setup. For most of our analysis, we will leave out regulators/antitrust authorities. This does not mean that this type of player is unimportant for the relative efficiency of different institutional setups. On the contrary, such government policies have in the past shaped the sector and will do so in the future. We return to such policies at the end in the conclusions.

### *Alternative Institutional setups*

#### **Overview**

In the following we concentrate on three prototypical institutional setups:

- (i) indemnity insurance (and fee-for-service);
- (ii) staff model HMO and
- (iii) MH/SA carve-out.

Actual institutional arrangements differ from these prototypes and may form hybrids that combine properties. Institutional arrangements are generally quite complex, particularly for the health care sector. As a result individual arrangements between players can vary in many details, and the incentives and constraints established vary with them. We intentionally do not cover all this richness but rather concentrate on simpler cases that are thought to capture essentials of types of arrangement. Later, however, we analyze differences between carve-outs and other new forms of managed care.

Carve-outs are usually for-profit firms, while indemnity insurance companies and HMOs often are nonprofit organizations. Our explanation of behavioral differences between carve-outs and the other institutional types will assume profit-making behavior in all cases. This way the other

\*For economic terms, such as 'concentration', see the glossary at the end.

institutional differences stand out. For carve-outs, this assumption is crucial. For insurers and HMOs, our arguments would probably hold more strongly if these entities did not try to maximize profits, because non-profit-maximizing behavior should result in even higher costs.

### **Indemnity Insurance (Management by Insurance)**

Indemnity insurance has been the traditional form of organizing the US health sector and dominated prior to 1990. It is characterized by a segregation of players by types, meaning that the different types of player are different individuals or organizations. There can, however, be horizontal and conglomerate integration between services performed by a particular type of player. For example, health care providers can be large and specialized or, alternatively, they can be large and multipurpose, or insurers can insure across different health services.

Under indemnity insurance, the sponsor contracts with the insurance company. This is usually a long-term relationship, although it may not formally be a multiyear contract. Otherwise, under indemnity insurance, there are no relational contracts between players, although patients and doctors may have informal long-term relationships. Under the indemnity insurance arrangement, the patient directly pays the provider but is reimbursed by the insurer.

Because of adverse selection and moral hazard problems, insurers for a long time have interfered with free choice by enrollees of health services ('management') via

- (i) limits to the choice of services (lifetime limits, non-covered services),
- (ii) co-payments and
- (iii) deductibles.

On the supply side, insurers have negotiated some fees, for example, for office visits and hospitalization, using market power in demand and market information.\* Ordinarily, the individual patient, under full reimbursement or lump-sum co-payments, would have no incentive to negotiate down service fees. Even with deductibles and percentage co-payments the advantage to patients from individually negotiating fee reductions would be small (relative to the effort of negotiation and to potential repercussions on service quality). Thus, patients would purchase services 'without regard to price'. In contrast, the insurance has less of a free rider problem because it bears a larger fraction of fees and it acts on behalf of *all* its insured patients. If an insurance contracts for lower fees with providers it can lower its premiums and attract more employers/enrollees. However, the incentives of the insurance to reduce costs may still be low because of its ability to pass on cost increases to the sponsor. The cost-reducing incentive then depends on the

\*The distinction between indemnity insurance and managed care is not sharp at this point. In the view taken here, pure pricing arrangements between insurers and providers fall into the indemnity insurance category, while further coordination between and exclusion of providers initiated by the 'insurance' company would create a managed care network (PPO). It is not clear, however, why a provider should give any discount to an insurer if the insurer cannot exclude providers or restrict the use of their services.

way insurance demand responds to price (for example, competition between different insurance plans offered by an employer) and the way the insurance profit margin is related to health service costs (for example, fixed or proportional markup). Indemnity insurance companies are usually multi-product firms that offer insurance for all kinds of health service (and more). A sponsor may have contracts with more than one insurance so that insurance companies compete for sponsors and (at a given sponsor) for enrollment. Thus, the incentive to reduce costs depends on the specifics of competition.

### **Staff Model HMO**

In contrast to the fully segregated indemnity insurance, the staff model HMO integrates providers, insurer and management in one organization. This integration is largely not vertical but rather conglomerate (of the product extension type). Providers have exclusive (employment-like) contracts with the HMO (doctors etc), are owned by the HMO (hospitals) or have relational contracts. By having a (relational) contract with the sponsor on capitation basis, the HMO is the insurer. One of the main functions of the HMO is management of the patient/provider relationship. Typically, HMOs are multi-product firms (physical health care and MH/SA). Sponsors often have contracts with more than one HMO or with HMOs and insurance companies (double sourcing). Thus, while there is competition for contracts with sponsors, there is additional competition for individual enrollees. The risk borne by the HMO through capitation is usually short term. In the pure staff HMO it is not a risk borne by individual providers, although even employment-like contracts can impose risks on providers. In the long term the sponsors share the risks with the HMO through experience rating. Patients usually face only small co-payments. However, benefits may be limited. Choice of providers is usually severely restricted in that providers may be assigned to individual patients, and specialty care may be regulated through gatekeeping.

Just as the totally segregated indemnity insurance has integrated some management function, the originally integrated HMO has segregated health care services by forming looser relationships with providers. These so-called group HMOs and IPAs (independent practice associations) are characterized by some vertical segregation between plan management and providers. IPAs form nonexclusive networks that contract with health plans or employers on a capitated or fee-for-service basis. In contrast, PPOs (preferred provider organizations) establish nonexclusive provider networks where providers serve on a fee basis. Last, POS (point-of-service) plans allow enrollees to use out-of-network providers, usually with extensive cost sharing. In this paper, we largely concentrate on the fully integrated HMO as an extreme type, having fairly distinct properties. Only the section 'Cost reductions over other forms of managed care?' contains some conjectures about differences from group HMOs and other forms of managed care.

## MH/SA carve-out

The MH/SA carve-out is as segregated as indemnity insurance and less integrated than the staff HMO. The carve-out company manages the relationship between patients and providers. It is a single-product-line firm specialized on the MH/SA sector and on the management function. For this purpose it must have relational contracts with sponsors and with providers. The management is provided for a fee. There is no separate insurer. Most often the sponsor is the insurer. Sometimes the insurance function is shared between the sponsor and the carve-out. The providers are independent doctors, hospitals etc. that are usually paid on a negotiated fee-for-service basis. The risk borne by the carve-out is often low and restricted to some cost sharing in case of cost overrides.\* In contrast, the sponsor (as a collective) bears risks through cost sharing or through fee-for-service contracts. Individual patients experience risks through service limitations, co-payments and deductibles. Carve-outs often provide employee assistance programs (EAPs), educating employees about the carve-out plan and behavioral health issues.

In the large majority of cases, sponsors contract simultaneously with a variety of health care plans, most of which will include mental health and substance abuse care. In those cases, sponsors only carve out mental health care from isolated plans, usually the original indemnity plan, and contract directly with a carve-out for this sub-population. United Behavioral Health, the third largest carve-out company in the US with about nine million members, had only five single source contracts out of more than 1000 contracts in 1996, accounting for about 6% of UBH membership.† In 1998, this number has increased to eight single-source contracts.‡ However, in the case studies that found large cost reductions from MH/SA carve-outs there has been single sourcing,§ meaning that those carve-outs had competed for sponsors rather than for individual enrollment.

We are only considering retail carve-outs, which have direct contracts with sponsors. In contrast, wholesale carve-outs are employed directly by HMOs. This means that the HMO subcontracts its behavioral health services to a carve-out (often with subcapitation). Wholesale carve-outs have been substantially less successful in behavioral health than retail carve-outs. They have been analyzed by Hodgkin *et al.*<sup>10</sup>

## Analysis of MH/SA Carve-outs

### The Task

As indicated in the introduction we want to explain the following.

\*This holds for the state employee program in Massachusetts that was analyzed by Ma and McGuire.<sup>3</sup>

†See Sturm and McCulloch.<sup>7</sup> The market share data are taken from Oss and Clary<sup>8</sup> and are discussed below.

‡I owe these observations to Roland Sturm (personal communication). It contrasts with the view that single-source contracts are common, taken by Frank *et al.*<sup>6,9</sup>

§See Callahan *et al.*<sup>4</sup> Goldman *et al.*<sup>2</sup> and Ma and McGuire.<sup>3</sup>

- (i) The striking cost reductions associated with the introduction of carve-outs. We will concentrate on a comparison with indemnity insurance and staff HMO, assuming that all entities are for profit.\* The main question to be answered here is 'Why can't a traditional insurance or a staff HMO do what a carve-out does?'. The puzzling side issue will be the lack of explicit incentives in carve-out contracts to reduce costs (little risk sharing and no attempt of pricing at the level of traditional insurance/HMO). We do not deal with the ambiguous quality effects, resulting from possibly increased access and restricted or redirected services. Since in the physical health sector traditional insurance and staff model HMOs are increasingly replaced by new forms of managed care, we develop some conjectures on the relative cost advantages of carve-outs over those forms for the behavioral health sector.
- (ii) The increasing market concentration for carve-outs associated with strong internal growth and mergers between carve-outs.
- (iii) We will also try to answer the questions of why carve-outs have happened so recently and why they have not spread equally to physical health services.

## Cost Reductions over Indemnity Insurance

The cost reductions by carve-outs express themselves as reduced service fees for providers and reduced service quantities purchased from providers (including substitution of less expensive for more expensive types of provider and outpatient for inpatient care). There may also be savings in other inputs, which we will discuss along with these two main types.

### Lower Service Fees

Why would carve-outs achieve lower service fees than would be available under indemnity insurance? The most obvious answer is the size of the carve-out as a purchaser of these services (from doctors, mental health practitioners and hospitals, but not for drugs). What advantages does larger purchasing size convey? Economies of scale in purchasing could be the result of resource savings (e.g., through bulk billing or standardization of purchaser orders), of superior information (use of lower cost providers, savings of advertising costs) or of purchasing power. In the last case, lower service fees do not necessarily represent an efficiency improvement. They would, if purchasing power lowered providers' margins. They would not if providers already supplied services at marginal costs.

While it is evident that larger purchase sizes are associated with lower fees (as long as the total service quantity is not increased), it is not clear that carve-outs would have size advantages from the start. Obviously, they would have such advantages over individual patients but hardly over

\*Nonprofit entities should not have cost-cutting advantages over profit-making organizations. However, they may provide more or better services.

established insurance companies. The main item here is size relative to individual MH/SA providers. Indemnity insurance is *intrinsically nonselective* and therefore cannot guarantee large business to individual providers. In contrast, even a small carve-out can fill a substantial fraction of the business of a small number of providers. Thus, by concentrating on a core set of providers, such a carve-out can reap the benefits of scale economies in purchasing. The main feature is a combination of selectivity and lumpiness. The latter is achieved through the award of contracts that cover the whole behavioral health needs of most or all patients associated with large employers. In addition, the carve-out may have stronger incentives to negotiate deep discounts than an insurance company, though this would depend largely on the competitive pressure on insurance rates that insurance companies face relative to carve-outs.

### Fewer Services

Under indemnity insurance, the patient demands excessive services (from a social welfare perspective), because the patient's marginal payment is less than marginal cost of the service (or the marginal payment even vanishes). This is known as demand-side moral hazard.\* At the same time, the health care provider may induce patients to demand more (out of altruism or out of an income motive). We call this supply-side moral hazard. The insurance companies have, for some time, tried to reduce demand side moral hazard through excluded services, payment limits, co-payments and deductibles. This has certainly had some diminishing effect on demand and thereby on the amount of services delivered. These policies also have some effect on supply side moral hazard because of the constraint imposed by demand. However, supply side moral hazard (the providers' incentive to increase demand for their services) is not directly addressed by indemnity insurance. In contrast, carve-outs directly influence the types and quantities of services available to patients. Insurance tries to repair moral hazard; the carve-out tries to avoid it.

While providers, under indemnity insurance, have wide discretion in whom to treat and in what amount, the carve-out controls access to providers and establishes tight rules on this access. This is a version of the well known issue of rules versus discretion. Discretion is optimal if there are strong market incentives to do the right thing (self-interest under competitive pressure). Rules are usually better if such incentives fail or are absent. However, the tradeoff between rules and discretion becomes murky if rules are hard to enforce. Rules, in the case of carve-outs, work because the carve-out's gatekeepers have no personal relationship to the patient. This makes them stick to the rules. In contrast, under indemnity insurance, there exists no formal gatekeeping. Decisions on treatment and referrals are made by providers, who tend to be altruistic or may fear malpractice suits, both of which tend to enhance services. Carve-outs are protected

\*Because the patient pays the insurance premium (either by direct salary reduction or, indirectly, through lower equilibrium wage or salary), there is the remote possibility that income effects reduce the demanded quantity below the efficient one.

from compensatory and punitive damages in malpractice suits through the Employment Retirement Income Security Act (ERISA). If carve-outs could be sued like individual psychiatrists, they would be much more circumspect about limiting care.\* Thus, the discretion given to providers under indemnity insurance may not work well from a cost-cutting perspective. This probably holds for both the general practitioners, who would refer mental health patients to specialists, and the mental health practitioners, who are directly visited by patients.

The general practitioners do not know enough about behavioral health to make efficient decisions on treatment and referrals. For example, Wells *et al.*<sup>11</sup> (p. 24) cite a number of studies showing that 'primary care clinicians do not recognize depression in about one-half of the affected patients' in the general medical sector. Since undetected behavioral health cases would not be referred to mental health specialists, lack of detection implies a potential underreferral problem. This could complement low referral rates from the general medical sector at the time of screening<sup>11</sup> (p. 106). It would also be in line with the observation by Goldman *et al.*<sup>2</sup> that the introduction of carve-outs has increased access to behavioral health specialty care and would strengthen the cost decrease due to carve-outs found in the works cited.<sup>2-4</sup> In contrast to primary care physicians, the mental health specialists face the above-mentioned supply-side moral hazard problems of not limiting services that would fail a cost-benefit test. Thus the carve-out, by using mental health professionals nonassociated with treatment and distanced from the patient by a telephone, can follow simple gatekeeping rules that the general practitioners would feel are below their standards and that mental health providers would not impose on themselves.

Supply-side moral hazard could also, potentially, be reduced through the low service fees negotiated by carve-outs (relative to fees negotiated by insurers). This would hold if low fees make it unattractive for providers to perform unnecessary services. Whether this holds or not depends on the labor/leisure tradeoff of providers and on the income and substitution effects involved. Here, the labor/leisure tradeoff includes the extent of professional ethics to provide the service diligently even at low remuneration.

While carve-outs are obviously effective in reducing services, the sponsor should be concerned that the services curtailed are in fact unnecessary or at least fail a cost-benefit test. Thus, the sponsor would need to monitor quality and access. Whether the sponsor is actually concerned depends on whether the sponsor is a good agent of the population of patients. This relationship will be covered in separate research. Collusion between sponsor and carve-out against the patient population cannot be ruled out.<sup>12</sup>

### Cost Reductions Over Staff Model HMOs

Cost reductions of carve-outs over indemnity insurance are not dissimilar to those of staff HMOs over indemnity

\*I owe this observation to an anonymous referee.

insurance. More surprising are cost reductions of carve-outs over staff HMOs and the reported size of such reductions. In contrast to staff HMOs, carve-outs are no organizational innovation in the provision of services. Rather, they often use health care providers in their traditional form and often pay fee-for-service.

The main hypothesis of this section is that, whereas the indemnity insurance has too little influence over providers, the staff HMO has too much. The problem of the HMO is probably best exemplified by Williamson's 'puzzle of selective intervention'. This puzzle is that, in principle, an integrated firm can do everything two segregated firms can do (by simply mimicking them), but the integrated firm could do better by selectively deviating from such imitation whenever the two segregated firms behave inefficiently (from the point of view of the combination). For example, if the two segregated firms compete with each other the integrated firm can increase the joint profit outcome by eliminating the competition. The problem with integrated firms, however, is that selective intervention is usually associated with managerial discretion and judgment that may fail and thus, for example, may lead to inefficient interventions. For example, internal purchasing saves the transaction costs of using outside sources. However, having an assured outlet for its products may make it difficult for an internal supplier to enforce strong cost-cutting incentives for internal inputs. In particular, establishing market-like relationships within firms is hard, because employees tend to collude with each other. Avoiding such collusion, for example, between gatekeepers and providers is precisely the advantage of the carve-out over the staff HMO (arms-length or new relationship, less collegian).

The staff HMO gatekeeping arrangement uses nurses or general practitioners that control access to the service providers and are not specialized on MH/SA. HMO gatekeepers usually see patients (and may actually treat them). The resulting personal relationship may make it hard for them to channel and deny treatment effectively, and they may lack MH/SA expertise.\* In contrast (initially and for reauthorization), the gatekeepers in carve-outs are behavioral health professionals (at the master's level) who only deal with patients over the phone and do not treat patients at all. Patients calling them only expect referrals not treatment. In addition, EAPs run by carve-outs, while educating enrollees, may increase the acceptability of this form of gatekeeping. Thus, the gatekeeping advantage of the carve-out probably also holds over the HMO.

The secondary hypothesis of this section is that carve-outs reap economies of scale. The advantages of segregation relate to functions and services. Carve-outs benefit from specialization on the management function and on behavioral health services. This way, they can reap economies of scale

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\*I received an anonymous comment saying 'HMO gatekeepers are not just nurses restricting access but management folks harassing doctors about the number of referrals made, tests done etc'. This would be compatible with the above observation because it signals that the direct gatekeepers alone are not viewed as being effective.

in monitoring. Interestingly, cost studies, such as that of Callahan *et al.*<sup>4</sup> show administrative costs of carve-outs to be high relative to HMOs. However, this is probably largely a measurement problem, because the costs borne by the carve-out are by their very nature administrative, while similar costs borne by HMOs may or may not be classified as administrative. For example, the gatekeeping function performed by a carve-out would be classified as administrative, while the same function performed by primary care clinicians in HMOs would be seen as clinical costs. Also, carve-outs may impose high administrative costs on providers because of justification of treatment plans, obtaining authorization etc. On the other hand, they may simplify billing, in particular if they account for a large share of a provider's business; they may pay more promptly, because services were pre-authorized, and they save time, because coordination with the primary care provider is not required. In any case, to the extent that such additional costs or cost savings occur with providers, they are already counted in the costs of treatment and in prices charged under agreement with the carve-out.

Contrasting with the conjecture that measured differences in administrative costs between carve-outs and HMOs are a mere accounting problem is the view by Frank and McGuire<sup>5</sup> that carve-outs increase real administrative costs and make coordination more difficult. Thus, it is probably best to look at the sum of all costs combined, when assessing carve-out costs relative to those of other institutions.

How do we know that carve-outs exhibit economies of scale? Economies of scale in administrative costs could, in principle, be measured by comparing different sized carve-outs with each other and by looking at their administrative charges, costs and profits (in conjunction with treatment costs). Administrative costs of carve-outs could exhibit economies of scale because of

- (i) setup costs (large carve-outs lower costs) and
- (ii) learning by doing (old carve-outs lower costs).

Carve-outs could have disadvantages compared to HMOs precisely because they cannot use 'production' economies and externalities from combining/employing providers.<sup>10</sup> In particular, they cannot combine behavioral and physical health. Thus, economies of scope may be lost. The flip side is the absence of *diseconomies* of scope. Such diseconomies could arise from multi-product operation (tension between physical health care and MH/SA, see below) and/or from combining production stages (tension between management and provision of services, because management tries to constrain services and interfere with providers' decisions).

### *Cost Reductions Over Other Forms of Managed Care?*

New forms of managed care have, over the last decade, increasingly replaced both indemnity insurance and staff model HMOs in the physical health sector. This replacement is accompanied by some of the same institutional changes that are represented by carve-outs. Thus, the questions arise

of whether carve-outs maintain significant advantages over such forms of managed care and, if so, why. The answers are important, because indemnity insurance and staff model HMOs may become increasingly irrelevant alternatives to consider.\*

The very limited empirical evidence on cost advantages of carve-outs over new forms of managed care is not entirely conclusive. Sturm *et al.*<sup>13</sup> is the only known study dealing explicitly with a switch from managed care (mainly IPA type models) to a carve-out. It shows a cost increase immediately after the switch, but this was followed by a substantial cost decline. The authors explain the initial increase by pent-up demand and an expansion of services. The carve-out, in this case, provides essentially unlimited behavioral health services, while those under managed care were severely restricted. Thus, Sturm *et al.* conclude 'For members receiving medical care through HMOs, insurance payments for behavioral health care were less in 1997 than in 1993, despite the increase in benefits'. Given the limited empirical data, we move to develop theoretical hypotheses about likely effects.

There are two sets of reasons why a carve-out may be preferred to other forms of managed care. The first reason is that behavioral health may be particularly prone to adverse selection issues that are best addressed by concentrating the service in a single plan.<sup>5</sup> This reason would only call for carve-outs to the extent that a sponsor wishes to offer patients a choice between plans for physical health and therefore carves out behavioral health in a single plan, while physical health continues to be covered by competing plans. This case of single sourcing is addressed in the next section. The second reason is that carve-outs provide direct cost savings compared to the other types of managed care.

To address this second reason, we distinguish three types of managed care from the staff model HMO.

- (i) *The group model HMO.* In this case, rather than being their employer, the HMO has exclusive contracts with providers. Otherwise, it resembles the staff model HMO.
- (ii) *IPA (independent practice association).* This is an HMO with nonexclusive contracts with a network of providers. The providers share an incentive system that makes their financial rewards, among others, depend on the performance of the collective.
- (iii) *The PPO (preferred provider organization).* This is a network of providers that has contracted with an insurance company on a nonexclusive basis and for a negotiated or discounted fee. In contrast to an HMO, the PPO does not take on the responsibility for assuring the delivery of the service (Luft and Greenlick,<sup>15</sup> p. 449). Rather, this is up to the individual providers. Incentives are set for individual providers only.†

\*This section was inspired by comments of an anonymous reviewer.

†A fourth plan is the POS (point of service plan). This is a network plan that allows the use of providers outside the network at a higher amount of cost sharing. Since this is an add-on that may be available for all types of plan, including the carve-out, it is not further discussed here.

In relation to staff model HMOs and carve-outs these three types have some common characteristics, relating to contract management and gatekeeping. Management by these three types shares with the carve-out that, in contrast to the staff model HMO, it is organizationally separated from service provision. That reduces the issues of selective intervention and of collusion among employees. Thus, similar to carve-outs, the managerial separation could reduce costs relative to staff model HMOs. However, in contrast to the carve-outs, management under these three types is not specialized on behavioral health issues. Thus, some product-specific economies of scale are lost. Also, diseconomies of scope could arise. Both of these would tend to increase costs, relative to carve-outs.

In the area of behavioral health, all three forms of managed care are characterized by virtually no referrals, i.e. most cases are either not detected or treated exclusively by their primary care providers. However, the really sick MH/SA patients are sent off, mainly because primary care providers do not know how to treat them. This results in undertreatment of less severe cases, and almost unmanaged (except for some inpatient review) mental health care for sicker patients. That is compatible with the numbers of Sturm *et al.*,<sup>13</sup> which, for the move to a carve-out, show a drop in inpatient days and an increase in outpatient visits. Also, there is an increase in rates of any behavioral care (which, of course, is hard to distinguish from the benefit increase).\*

Besides having these common features, the three types of managed care discussed here differ in their management incentives for providers. Group model HMOs can provide strong incentives because they have an exclusive relationship with providers and providers are connected to common objectives. However, if the group is large the individual contribution to the common objective is likely to be small, reducing the incentive effects. Because of nonexclusivity, IPAs can offer enrollees choice between a large number of providers. Incentives are provided to individual providers directly in the form of capitation or weaker forms of risk sharing. Capitation can have strong effects on cost containment. However, it may not be applied to behavioral health problems, because behavioral health specialists may not be covered by it. Thus, overall, the cost-reduction incentives for behavioral health care in IPAs should be weaker than for a group model HMO. Last, the PPO is nonexclusive and uses individual incentives only. If plan management sets these incentives right, they need not be weaker than in the case of IPAs, because there is no specific free rider problem that could arise from risk sharing among providers in the IPA. In the PPO, it is up to the individual providers to determine the level of care and to make

\*A reviewer remarked that 'Utilization management has been described as "rationing by harassment" and [it] leaves many providers in the position of reducing treatment in order to avoid this time-consuming and unreimbursed process. Asking patients to pay out-of-pocket is another way many clinicians have dealt with this disagreeable experience with managed care'. I am not sure that this observation would apply more or less to carve-outs than to other forms of managed care.

referrals. Cost containment by the plan occurs via limits on treatment and procedures, prior authorization and by reduction of fees and bills.

Overall, we would expect that any cost advantages of carve-outs over the other three types of managed care are weaker than over indemnity insurance and over staff model HMOs. The advantages would come largely from a specialization on a single set of health problems that are sufficiently distinct to warrant management that differs from that required for physical health problems. The way to acquire the necessary expertise and develop those management skills for these other managed care organizations would be to start a carve-out within their organization. Given economies of scale in such management, this may be a feasible option for the largest organizations but it would be time-consuming. Also, it would require a multi-divisional firm structure.

### *Single Sourcing as a Cost-reducing Factor*

There are a number of factors potentially responsible for the observed cost reductions that have accompanied the introduction of carve-outs but are not necessarily restricted to carve-outs. These include single sourcing and reputation effects. They may be responsible for the finding by Callahan *et al.*<sup>4</sup> Goldman *et al.*,<sup>9</sup> and Ma and McGuire<sup>3</sup> that costs decreased substantially although contracts between sponsors and carve-outs did not specify any hard cost-reducing incentives.

In many cases of HM/SA carve-outs the sponsors acquire behavioral health services only through the carve-out. This creates a tradeoff between the benefits of competition for enrollees and the benefits of single sourcing.\* The benefits of competition for enrollees include choice for individual patients, and that may lead to lower premiums and/or better services. The benefits of single sourcing include the following.

- (i) A potential reduction of adverse selection problems because the carve-out cannot 'dump' bad risks on other contract partners of the sponsor.† There may still be attempts to exclude high cost patients by discouraging them from joining the sponsor (as the parent of a mentally disabled child one does not seek employment with a firm whose MH/SA carve-out plan excludes treatment for the child's condition).
- (ii) Less duplication of plan setup costs. This is again the above economies of scale argument. Obviously, if economies of scale are not exhausted single sourcing will lower costs.
- (iii) Competition for contracts rather than for enrollment within a contract. Single sourcing does not eliminate competition. It switches competition to another level. While it is not clear that the other two factors outweigh the effects of lack of competition for

enrollment, competition for contracts is likely to be the decisive factor. The reasons for this are two. First, because of their large, lumpy size, single-source contracts allow for immediate economies-of-scale benefits. Second, the award (and renewal) criterion is likely to be cost performance rather than finding a market niche in terms of product differentiation.\* A tricky moment for single sourcing is contract renewal time. Here, the current contract holder may have an incumbency advantage over other bidders. In particular, the current contract holder may have superior information about the sponsor and the enrollees, and the sponsor may fear that there are switching costs to enrollees from getting used to a new carve-out with possibly new providers. In the case study by Ma and McGuire<sup>3</sup> any incumbency advantage did not prevent the state of Massachusetts from switching carve-outs. Also, Ohio's carve-out program, analyzed by Sturm *et al.*<sup>13</sup> shows supplier switching. In the past, the cable TV industry was characterized by single-source franchising. In this case, incumbents did not seem to have major advantages. Rather, they had to offer competitive prices to achieve renewal.<sup>15</sup>

We are now in a position to answer the questions of why carve-outs would not just exhibit marginally lower costs than indemnity insurance and HMOs and why they do not need explicit incentive contracts to lower costs substantially. The main features are the competition for contracts, which are highly valuable (lumpy), combined with 'easy' and standardized cost cutting. Although their pay often varies little with performance, carve-outs are doing their best (just like consultants), simply because repeat business and a reputation are so valuable.

Nevertheless, under this strategy, the problem for the carve-out is the possibility of ratcheting, meaning that the performance standards written into contracts will be adapted to past performance. Thus, the better the performance at the beginning the higher the standard for later. This, in turn, could induce the firms not to improve performance beyond the standard. While ratcheting may be a problem, it is less so the fiercer competition is. First, the fiercer competition the lower prices (relative to quality standards), at which competitors will propose to perform. Thus, it is not necessarily the superior performance of the incumbent that triggers a lower price in the next round. Second, superior past performance could be a competitive signal for good future performance. It is also important to note that the ratchet argument is used here for contracts with low-powered explicit incentives. The reason why sponsors would write low-powered incentives into contracts could be to avoid incentives to reduce quality.<sup>16</sup>

Why, under single sourcing, does a carve-out not use a hit-and-run strategy, under which it would relax any cost

\*See also Frank *et al.*<sup>6</sup>

†Carving out behavioral health, with its strong moral hazard and adverse selection effects, may actually reduce those two issues for the other plans that are now confined to physical health.

\*This point also includes a potential conflict of interest between sponsor and enrollee/patient that I intend to analyze in future research.



controls after having won a large contract? This way, it could cash in without much effort. The profit from this strategy has to be weighed against money made through good reputation. The carve-out has to recoup setup costs. So do competitors for the repeat business. As demonstrated by Farrell<sup>17</sup> this can create an entry barrier in the market and thus give the set of incumbents some market power.

Related to single sourcing is the ability of states as sponsors to shift suppliers and thereby reduce the effects of public sector contracting rules. Rules change from a requirement on hiring health care providers either through competitive tenders or without any selection to the requirement of using tenders for hiring a management company. This shift allows states to implement cost cutting without directly excluding providers.

How large is the cost-cutting advantage of single sourcing? Sturm *et al.*<sup>13</sup> provide some evidence for the state of Ohio. Here, from 1990 to 1995 a carve-out had been providing behavioral health services to those state employees that were covered by indemnity insurance for their other health services, while employees already under managed care were not carved out for their behavioral health. Starting in 1995, all employees were assigned to a single behavioral health carve-out. This last switch led to a substantial reduction in costs. This could indicate cost savings from single sourcing. However, there are two competing interpretations.\* The first is that it is the result of supplier switching, and the new supplier (USBH) is simply a better cost cutter than the first (Biodyne). The second is that the employees originally under managed care programs had fewer (behavioral) health problems so that the health risks are more favorable to the new carve-out than to the old one.

### *Increasing Market Concentration*

At the same time that we observe the impressive penetration of MH/SA carve-outs the market between sponsors and their contract partners (insurers, HMOs or carve-outs) in the US seems to exhibit increasing concentration. If one takes the national as the relevant geographic market that is certainly true. Currently, the largest MH/SA carve-out (Magellan Health Services) has over 37 million enrollees out of a total of 94 million carve-out enrollees overall. At the beginning of 1998 the largest three carve-outs had a combined market share of almost 70% and the largest ten of 89%.† The size distribution is thus heavily skewed towards the largest firms.‡ Also, in terms of total enrollments, the largest two MH/SA carve-outs are substantially larger than the largest insurers and HMOs, which hardly reach ten

\*The Ohio approach also uses high-powered incentives.

†The numbers have been extracted by the author from Oss and Clary<sup>21</sup> by deducting membership in plans that do just utilization review or are just EAPs. Including those two types of plan. Total enrollment climbs to 162 million.

‡The relevant concentration index for the industry, the H index, is about 2130. The Federal Trade Commission or the Department of Justice would consider such a level already critical for allowing any further mergers involving Magellan. The H index is the sum of all squared market shares (expressed as percentages).

million enrollees. This reemphasizes the above economies-of-scale arguments in favor of carve-outs.

Carve-outs have not just changed the product traded in this market, but they have also changed the geographic scope of the market's supply side. Before carve-outs, local suppliers largely dominated the market. However, carve-outs have quickly become firms with nationwide presence. This has, in a way, led to a national rather than local market. However, from the point of view of individual sponsors, choice may not have been reduced, because rather than having to choose between a few local suppliers they now choose between the same or even a larger number of national companies.

How and why have individual carve-outs grown so rapidly? They could have grown internally, through expansion, or externally, through mergers. Internal growth could occur through superior efficiency or market power. At least initially, we expect that the same factors that explain the success of carve-outs in the first place are also responsible for their individual growth. Thus, initially, market power can be excluded as a reason for internal growth. However, the seeds for market power may have been present very quickly. The reason is that carve-outs are a major management innovation that, though simple, requires skills in cost cutting, monitoring and organization. Managerial innovations can not, in principle, be legally protected against copying. There are no patents or copyrights available to the innovators. Even secrecy (Coca Cola's secret formula) is not available. Knowledgeable carve-out employees can leave and join potential competitors. So, what keeps entrants from imitating successful incumbents? It is that successful companies are identified as such by brand name or reputation, and this conveys a substantial advantage for winning contracts that are quite risky and costly for sponsors.<sup>17</sup> Sponsors will thus strongly prefer a carve-out with a proven track record. Two other advantages that incumbents have over potential entrants are the following.

- (i) Setup costs for the organization and for the procedures required to run a carve-out. Such setup costs are sunk once they are incurred. Thus, an incumbent no longer incurs them while, for an entrant, they are costs of getting into this business.
- (ii) Benefits from learning by doing. Organizations improve over time by learning from their mistakes. Over time their cost levels often follow a logistic curve, something that seems to be happening for carve-outs.<sup>18</sup> Learning by doing is another type of economy of scale where scale is measured by cumulative output over time.

Taken together, reputation, setup costs and learning by doing could create entry barriers that could exclude new firms from entering, even though carve-out management is not a high-tech or highly branded service.

The second way to increase concentration in the market affected by carve-outs has been through mergers. There have been striking mergers and ownership changes. For example, Magellan—the largest carve-out—is the result of

a sequence of mergers. The latest of these has been the acquisitions of HAI and Merit, about tripling the Magellan enrollees. In contrast to internal growth, mergers may allow firms to reap benefits from gaining size immediately. This new size could be used to achieve market power or efficiencies.

Since mergers between carve-outs are for the same service, the main efficiency advantage would be in the form of economies of scale. Mergers avoid some duplication, although setup costs cannot be saved because they have already been incurred and are sunk. To the extent that the merged companies cover different geographic areas the combination can benefit from multi-market savings in transactions costs with sponsors and providers. Such transactions cost savings refer to contract drafting, negotiations and enforcement.<sup>19</sup> A second merger advantage could be spillovers in the form of learning from each other's virtues and mistakes. However, at the same time, a merger has to overcome incompatibility problems between different corporate cultures and different types of computer software. If economies of scale are the main reason for a merger, then other competitors should suffer as a result and their stock value decline.

Since mergers can, in principle, lead to increased market power, the market power motive for mergers has, for a long time, been emphasized in the literature. However, by now it is well known that market power alone can be a rational motive only under rare circumstances, such as a merger for monopoly.\* Short of monopoly, the gain in market power from merging is usually not enough to increase profits to more than the sum of profits of the previously unmerged firms. The reason is that, without any cost or marketing advantages, mergers have positive spillovers on competitors that gain from the reduction in the number of competitors and reap part of the benefits from increased concentration. Obviously, the vigor of competition in bidding for contracts is critically dependent on the number of bidders. However, if the number is reduced by one through a merger, then all the other bidders benefit just as much as the merged firm. Thus, if we see that a merger increases the share price of a nonmerging competitor, we suspect that the merger increases market power of these competitors (and of the merged firm).

Because a pure gain in market power is unlikely as a merger motive, cost reductions through economies of scale are likely to mix with the ability to raise prices relative to costs. Thus, we may see price reductions that are tempered by increases in price-cost margins.

### *Difference from Physical Health Care*

Why do we observe carve-outs particularly in the provision of behavioral health and much less in areas of physical health care? I offer two hypotheses, one based on the lack

of economies of scope and the other based on perceived moral hazards.

The health sector consists of a multitude of services related to many different diseases. Economies from providing/insuring/managing combinations of these services are called economies of scope (or synergies). They (and positive externalities) are responsible for the existence of multi-product firms, such as general hospitals or general practitioners. At the same time, due to limits to firm size (from extended span of control, indivisibilities etc), multi-product firms may have a hard time reaping all benefits from product-specific economies of scale. Thus, a generalist may benefit from economies of scope but lack advantages from specialization. The optimally sized firm in the health sector will combine size and services in such a way that any diseconomies from too large size (span of control) are balanced against reaping benefits from economies of scope and product-specific economies of scale. Thus, we expect specialized firms in areas where product-specific economies of scale are large and multi-product firms in areas where economies of scope are strong, and we expect large *and* multi-product firms in areas where both economies of scope and product-specific economies of scale are important. Now, my conjecture is the following.

- (i) Economies of scope between the provision of physical and behavioral health care are (currently) weak, except that general practitioners act as substitute mental health specialists and that large general hospitals also provide mental health services. Behavioral health is too far away from the entrenched knowledge of most general practitioners and of physical health specialists to be a natural part of their mutual referral system.
- (ii) Product-specific economies of scale for the *provision* of behavioral health services are not very pronounced, while they are important in many areas of physical health care (as are economies of scope within physical health care). Cases in point in physical health are central hospitals, where economies of scale and scope can be impressive.
- (iii) Product-specific economies of scale in *managing* behavioral health care are large relative to product-specific economies in the *provision* of such care (and probably more pronounced than in managing physical health care).\*

These three factors *in combination* make specialized management of behavioral care attractive, while specialty management would only be worthwhile for the few areas of physical health care that have these three properties.

The second important reason for the success of carve-outs in MH/SA as opposed to physical health care is the larger *perceived* moral hazard for MH/SA. In my view, this holds both for the demand side and the supply side. On the

\*See, e.g., Salant *et al.*<sup>20</sup> or Farrell and Shapiro.<sup>21</sup>

\*Dental care, which shares the other two properties, does not require extensive management with economies of scale. Thus, dental care has some carve-out features in the provision.

demand side, the relevant elasticities appear to be higher on average than for physical health care. There is substantial unmet need and a stigma associated with treatment, something that carve-outs can address in EAPs. More important, however, appears to be the supply side. Here, the problem is that the efficacy of treatment is either not well known or not known to generalists and not easily observable to the patient. There appears to be an absence of a clinical consensus informed by outcome research and science in the treatment of many behavioral health conditions.\* The range of clinical uncertainty in psychiatry and mental health is very large. Thus, excessive supply is harder to monitor. At the same time, outside utilization managers have a lot of room in which to change or reduce treatment without immediately detectable adverse impact. In contrast, for many medical and surgical treatments the clinical consensus is stronger so that the type of treatment leaves less room for discretion.

### *Why Carve-outs Now and Not Earlier?*

In principle, carve-outs are not a complicated invention, so, why did they not happen earlier? One answer is that even simple inventions have to be made. In fact, carve-outs have been around in the US for some time. Hodgkin *et al.*<sup>10</sup> note that HMOs used behavioral health carve-outs (as wholesale carve-outs) more than a decade before sponsors used them directly (as retail carve-outs). Carve-outs as HMO partners were not such an immediate and widespread success as retail carve-outs. The diffusion of carve-outs was therefore retarded because they were initially applied in the wrong place.

Thus, the first answer is that innovations occur as a result of institutional learning.

The second answer, which appears to be more convincing, is that there has been a change in relevant variables. In particular:

- (i) Biomedical innovations have improved the success rates in the treatment of certain behavioral illnesses. These new treatments may have reduced the relative efficacy of certain other treatments that are favored by groups of providers whose business builds on these treatments. If these providers have influence under the old institutional setups it takes a new institution to overcome their resistance. This resistance would be strongest for behavioral health providers without medical degrees who may be legally prevented from applying these treatments.
- (ii) Computerization has vastly improved the ability of organizations to deal with large sets of patients and to follow up on treatment discipline. This has created economies of scale in management.
- (iii) The HMO approach, which preceded the success of carve-outs, was only a limited success in terms of patients' satisfaction and cost containment. In

particular, HMOs may poorly address populations with special health care needs. In a carve-out, those populations are specifically catered to.<sup>5</sup>

- (iv) The share of MH/SA in sponsors' budgets has increased over time and was in danger of increasing more. So, the pressure to reduce costs increased. In particular, in the late 1980s there was the perception that mental health and substance abuse were getting out of control due, for example, to the misuse and abuse of insurance by for-profit psychiatric hospitals and hospital chains, unethical marketing, and fraudulent billing. These events gave a boost to the growth of managed behavioral health care as a protector from such abuses.\*

### **Conclusion and Outlook**

This paper analyzes a case of large performance differences between institutions. It shows that there can be large advantages of separation over integration. The cost reductions through introduction of MH/SA carve-outs in the US have set in immediately. Afterwards, cost reductions seem to follow a logistic curve,<sup>18</sup> suggesting further learning by doing. This would lead to the hypothesis that, after some time, the cost-reduction effects would taper off and costs thereafter would change in step with those of health care in general.

However, there may be a less optimistic outcome in store. The positive results may not persist. The reasons concern both prices and quantities. Restrictions of *services* may be difficult to maintain for the following reasons.

- (i) Because of relational developments between gatekeepers and patients and between gatekeepers and providers. The longer these players interact, the harder it is to say 'No'. For example, the relative frequency of initial gatekeeping will diminish relative to renewals.
- (ii) Because legal and regulatory developments threaten to force a relaxation of restrictions. Patients generally oppose any restriction in choice of providers and of services. Thus, even if such restrictions provide net benefits, patients as voters favor regulations that either lift certain restrictions or introduce due process to counteract adverse decisions by gatekeepers. The result is a cost increase of plans that rely on restrictions.

The reduction in *prices* could be reversed under either of two conditions. First, if the reduction was simply the result of price discrimination in favor of large buyers they may not be sustainable once full penetration by carve-outs is reached.<sup>6</sup> Second, if the price concessions were the result of temporary excess capacity of providers (partly as a result of reduction in services induced by carve-outs) they may vanish in the long run as will excess capacity. The reduced

\*I owe this observation to an anonymous reviewer.

\*This point was informed by an anonymous referee.

profitability of providers resulting from price reductions of their services will therefore lead to an equilibrium adjustment in provider capacity.

To summarize, carve-outs have helped achieve substantial cost reductions. The questions are now, 'How can these cost reductions be maintained?', 'What have been the effects on quality of care?' and 'How can the learnings be applied to other parts of the health care sector?'

I see three main avenues for further research. The first is to find more empirical evidence for the hypotheses developed in this paper. The second is to look for other countries and other areas of health care with characteristics that would lend themselves to the application of carve-outs. The third is to analyze the quality aspect of carve-outs. The empirical question here is 'What has been the effect of carve-outs on the quality of behavioral health care in the US?'. The theoretical question is 'What are the incentives of the sponsors of carve-out plans and of the carve-out management to assure quality provision of care?'

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## Glossary

**Adverse selection:** The result of individual characteristics of economic agents that are observable to those agents but not to others (hidden information). Thus, those agents will claim to be different from what they actually are.

**Barrier to entry:** A (cost) advantage of an incumbent firm over a (potential) entrant, creating market power for incumbents.

**Concentration:** The size distribution of firms as a measure of the market power present in a market. Concentration increases in the market share of the largest firm(s).

**Conglomerate:** Refers to services that are dissimilar. There are different degrees of conglomerateness. *Market extension* means the same product or service in different geographical areas; *product extension* means a related product (complement or substitute in demand or supply), while *pure conglomerate* refers to the absence of any direct relationship between services. Market extension into neighboring areas or product extension to close substitutes can be anti-competitive. Otherwise, conglomerate relationships are rarely anti-competitive.

**Economies of scale:** Cost advantages of larger firm size, measured by output quantity.

**Economies of scope:** Cost advantages from combining several outputs.

**Externality:** An unintended effect of an economic transaction on somebody else who is not part of it.

**Horizontal:** Refers to similar services at the same production stage. Horizontal relationships would, for example, exist between different MH/SA carve-outs providing similar services, or between different health care providers. Contracts across horizontal lines limit competition and/or make use of economies of scale.

**Income effect:** Change in the demand for a good brought about solely by the change in purchasing power that is associated with a price change. See substitution effect.

**Industrial organization:** The economic specialization that deals with market imperfections.

**Market power:** The ability of a firm to raise its price without losing all its sales.

**Moral hazard:** Bias resulting from behavior that is not directly visible to outsiders (hidden action problem).

**Principal-agent theory:** Non-market analysis of incentives between parties, where one party sets a task (the principal) but needs another party to fulfill it (the agent). Both parties are assumed to be self-interested.

**Relational contract:** A close contractual relationship between buyer and seller that is usually expressed by long duration.

**Spot markets:** Simultaneity between entering into contracts and their execution.

**Substitution effect:** Change in demand for a good brought about solely by the change in relative prices associated with every single price change. See income effect.

**Transaction cost economics:** The branch of economics, which deals with costs arising from using markets or internal organizations for making transactions. Transaction cost economics allows for institutional comparisons.

**Vertical integration:** The substitution of firm-internal transactions for market transactions. It results in the production of the same service over different production stages or functions. Vertical production relationships are characterized by complementarity.

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