

Owned vertical integration and health care: Promise and performance

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This article examines the alleged benefits and actual outcomes of vertical integration in the health sector and compares them to those observed in other sectors of the economy. This article concludes that the organizational models on which these arrangements are based may be poorly adapted to the current environment in health care.

Vertical integration in health care appears to be an idea whose time has come.¹ Vertical integration, the combination or coordination of different stages of production, may be achieved in a variety of ways such as contracts, relationships, or ownership. Although the potential benefits of vertically integrated systems in health care have been touted by various federal and private commissions for more than 70 years,² current interest can be attributed to increasing pressures from employers and insurers to control costs and the advent of managed care. In an attempt to adapt their organizations to these demands, health care providers are experimenting with a variety of mechanisms to restructure, integrate, and better coordinate their services and provision of care.

Indeed, vertically integrated structures have come to be widely viewed as the solution to a host of problems in the health care industry, much as Shortell predicted several years ago.³ Among the anticipated benefits are economies of scale, more efficient care, reduced duplication of services, reduced administrative costs, greater coordination of services, and increased market influence. Providers anticipate an increased ability to survive and prosper, while society and businesses anticipate lower costs and higher quality of care.

Major innovations in any industry are invariably accompanied by overly optimistic expectations and unanticipated problems. While most observers presume that new vertically integrated structures will yield significant societal and organizational benefits, there is no guarantee that these objectives will be met. Indeed, recently several prominent health care strategists have come to question the wisdom of using ownership as the vehicle for vertically integrative strategy (owned vertical integration).⁴⁻⁶ Presently there is little empirical evidence to support the promised benefits with any type of vertical integration. In fact, the limited empirical evidence and the recent experience of a

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small number of owned vertically integrated systems, such as Kaiser, suggest that greater inefficiencies and organizational problems may actually be created.

Given the limited research regarding vertical integration in health care, managers and researchers might wish to consider evidence from firms in other industries that have vertically integrated. Automobile, steel, oil, forest products, and aluminum producers have all vertically integrated (and divested) over the past century. Their experience might be instructive as the fascination with integration in health care deepens.

This article explores the anticipated benefits of owned vertical integration in general and in health care specifically, and reviews the empirical evidence. The article then discusses special contextual factors in health care that influence the success of integrated structures, as well as other types of vertical integration that may be more effective. We conclude with a discussion of the implications of vertical integration for managers and policy makers.

THE PROMISE OF VERTICAL INTEGRATION

Before exploring the results of vertical integration, it is important to first understand its promise. Knowing the anticipated outcomes provides a basis to compare actual empirical results and more fully understand the correlation between the results and prior objectives.

Non-health care sector

Owned vertical integration promises cost efficiencies by means of economies of internal control and coordination, economies of information, and technology.^{7,8} Costs of monitoring and negotiation are also reduced as integration creates mutual dependencies and trust.

Vertical integration also augments the firm's market power.⁸ Consolidating upstream suppliers and/or downstream distributors moves a firm closer to monopoly or quasi-monopoly power. This power enables the firm to become a price maker.⁹ This additional market power is further associated with increased bargaining power and increased entry and mobility barriers that augment the ability to raise prices.^{7,10-14} Vertical integration may also permit the avoidance of regulatory costs^{11,14} and the ability to more easily retire outmoded market assets.¹⁵ While increased market power may yield short-term benefits

to the individual firm, it may not benefit society. Instead, reduced services at higher costs may be the ultimate consequence.

Vertical integration through ownership may also allow a firm to better adapt to environmental pressures. Particularly when organizations are characterized by ambiguous outputs, inputs, and technologies, organizational form may become a proxy for quality and/or efficiency.¹⁶ DiMaggio and Powell¹⁷ suggest the institutional pressures to adopt new organizational forms may stem from legal requirements, the threat of uncertainty that leads to imitation, or the force of the industry's professional opinion. The institutional environment rewards those organizations that adopt the appropriate structural form by governmental license, increased ability to contract, public acceptance, and/or augmented legitimacy.

In summary, organizations may be motivated to vertically integrate in order to obtain increased efficiencies and/or market power. Vertical integration may also be encouraged by the institutional environment.

Health care

The health care literature echoes the strategic management literature regarding the promised benefits of vertical integration. Efficiencies (both clinical and administrative), increased market power, and environmental acceptance are commonly expressed benefits (see Table 1). Most authors also assume that vertical integration will improve the health status of the population.^{2,4,18-20} Such improvements derive from clinical and administrative integration, creating improved marketplace efficiencies by reducing excess capacity, eliminating unnecessary care, and concentrating responsibility for a continuum of care.^{19,21-23}

It is also widely assumed that increased market power will result from vertical integration. Mick²⁴ sees vertical integration forestalling physician competition. Peters,²² Conrad and Dowling,²⁰ and Dowling¹ see vertical integration increasing the organization's power to negotiate with suppliers, managed care companies, and others. Johnson⁴ states that vertical integration facilitates market domination, while

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TABLE 1

SUMMARY OF PRESUMED BENEFITS OF VERTICAL INTEGRATION IN HEALTH CARE

	Lowering costs and eliminating unneeded services	Economics of scale	Increased market and negotiating power	Profit and market share gains	Better recruitment and retention of MDs	Environmental acceptance
Findlay (1993)	X	X	X			
Coddington (1994)	X			X	X	
Shortell (1989)	X		X			
Peters (1994)	X	X	X		X	
Fox (1989)			X			
Ackerman (1992)	X	X				
Gillies (1993)	X					
Conrad (1993)	X					
Wirth (1993)			X			
Wheeler (1986)	X			X		
Johnson (1993)	X		X			
Conrad & Dowling (1990)	X		X			
Zuckerman & D'Aunno (1990)						X
Brown & McCool (1986)	X	X		X		

Conrad and Dowling²⁰ argue that it facilitates the avoidance of regulation.

Another benefit of vertically integrated systems is public and professional acceptance. Zuckerman and D'Aunno²⁵ argue that health care organizations gain legitimacy and subsequent support by meeting external norms or expectations. As the spate of recent health care literature in Table 1 suggests, vertical integration has fast become an expected, almost normative strategy to pursue. Almost all proposals for health care reform assume some type of owned integrated health system. Indeed, much of the current vertical integration frenzy can be seen as the response to the possibility of future governmental reform, be it at the national or state level.

THE PERFORMANCE OF VERTICALLY INTEGRATED ORGANIZATIONS

Non-health care sector

A review of empirical studies suggests that owned vertical integration does *not* generally produce significant efficiency gains. In one of the most thorough, recent studies, D'Aveni and Ravenscraft compared

owned vertically integrated and nonintegrated firms.²⁶ Using Federal Trade Commission (FTC) data, they reported increases in production costs along with greater decreases in general and administrative costs among highly integrated firms. However, in industries with unstable demand, production costs increased with *no* saving in overhead expenses. Also, those firms that primarily implemented backwards integration incurred higher overall costs and lower profits. They conclude that ownership of vertically integrated organizations succeeds best when coordination, production scheduling, and planning are relatively easy, when demand is certain and growing, and the industry has a few very large plants.

Other research has likewise demonstrated that increased inefficiencies may result from vertically integrated organizations. D'Aveni and Ilinitch²⁷ examined the effect of owned vertical integration in the forest products industry during a period of turbulent environmental and competitive changes. They found that fully integrated firms had higher systematic and bankruptcy risks in turbulent product markets. Other researchers report that ownership and backwards integration create exit barriers that "trap" firms in industries that may cause destructive competition and

reduced profits.²⁸ Similar research on mergers, which combines both vertical and horizontal acquisitions, indicates that profitability declines significantly following mergers.^{29,30} Decreased growth and profitability among merged firms subsequently fosters a high incidence of divestiture of acquired firms. Overall, research on owned vertical integration suggests resultant firm inefficiencies, not efficiency gains.

The empirical research above is also supported by a number of academic reviews of the literature. Martin¹³ finds no evidence to support any social benefit from mergers. Koch³¹ states that all research has shown firms generally to be less profitable following mergers. Greer³² suggests that only big firms with relatively large market shares generally find owned vertical integration to be profitable, due to their use of vertical integration in anticompetitive ways to increase price. Clarkson¹⁴ points out that if owned vertically integrated arrangements were actually beneficial, more and more firms over time would vertically integrate. Yet, he and others³³⁻³⁵ find "no discernible trend of increased vertical integration by ownership over time."^{14(p.342)} Owned integration has been found, however, to occur in cyclical, perhaps faddish, waves for the past 60 to 100 years in the U.S., Europe, and Japan. Mueller³⁶ attributes such cycles to mimetic behavior. For all of these reasons, Williamson³⁷ and Stuckey and White¹⁰ suggest owned vertical integration only as a structural form of last resort.

In sum, a review of the literature outside health care leads to two surprising conclusions. First, the amount of empirical research regarding the impact of owned vertical integration is quite small. Second, almost all findings suggest negative effects of owned integration on performance (see Table 2).

Performance in health care

Many researchers acknowledge that systematic empirical research on vertical integration in health care does not yet exist.^{1,2,5,19,23,24,38} A few ongoing research projects such as the Health Systems Integration Study have now produced some preliminary results. Shortell et al.³⁹ report that integration is positively associated with financial performance, total net revenue, and productivity. However, these findings are based on the perceived integration reported by organizational members, not on ownership and/or nonownership, and do not take into account other factors that may influence system performance. Mick notes that efforts to link separate health care functions

under a single organizational structure have often been scuttled after unrealistic expectations of producing all or most services internally were not met.²⁴

A reasonable amount of evidence has accumulated on the performance of multihospital systems and hospital mergers, however. While these studies do not directly report on the results of vertical integration, they do focus on many of the dynamics involved in vertical integration and, thus, may provide some information on the potential results of vertical integration in health care. Shortell,³ Zuckerman,⁴⁰ and Ermann and Gabel⁴⁷ each conducted research on the performance of multiinstitutional hospital systems. Shortell³ reports little if any economic or service "value added" generated by affiliation. His findings are consistent with Zuckerman's⁴⁰ conclusion of mixed evidence supporting economic benefits at the institutional level, and little evidence for community benefit. Ermann and Gabel⁴¹ also find little evidence of efficiencies and community price benefits from multihospital systems. Dranove and Shanley⁴² also found no evidence of lower costs in hospital systems. They conclude that horizontal integration does not reduce production costs, but does reduce the system's search/reputational costs and improve its marketing success.

Two recent studies do report efficiency gains following hospital mergers. The Hospital Research and Education Trust found that merged hospitals reduce acute care services, lower costs, and reap higher profits.⁴³ Similarly, the Health Care Investment Analysts found that hospital costs decline postmerger; however, hospitals retained the increased profits and did not pass the savings on to consumers.⁴⁴

Summary of effects of vertical integration

Owned vertically integrated arrangements do not appear to significantly reduce organizational costs or yield other efficiencies. On the contrary, research suggests higher production costs and exit barriers and, when unstable demand exists, higher administrative costs as well. In health care the potential costs may

Increased bargaining power and the ability to augment price may be important strategically for such systems in order to pass on the increased production and administrative costs.

TABLE 2

SUMMARY OF ORGANIZATIONAL EFFECTS DUE TO MERGERS AND OWNED VERTICAL INTEGRATION

	Finding	Industry	Market event
<i>Empirical evidence</i>			
D'Aveni & Ravenscraft (1994)	Slight gains overall, consistent increases in production costs, inefficient with unstable demand and backward integration.	General	Vertical integration
D'Aveni & Illnitch (1992)	Fully owned firms have higher systematic and bankruptcy risks in turbulent product market environments.	Forest products	Vertical integration
Harrigan (1985)	High degrees of ownership and backward integration erect exit barriers that may result in destructive competition and reduced profits.	General	Vertical integration
Harrigan (1986)	Successful firms used forms of control less than full ownership. Unsuccessful firms purchase too often from owned companies.	General	Vertical integration
Ravenscraft & Scherer (1989)	Acquired companies tend to be highly profitable pre-merger. Following mergers profitability declines with a high degree of divestiture. Questions claims that mergers on the average are efficiency enhancing.	General	Mergers
Borg, Borg & Leeth (1989)	Evaluated mergers during the unregulated 1920s. Found consistent results that postmerger performance declined indicating substantial shareholder loss.	General	Mergers
<i>Opinions and Summaries</i>			
Martin (1993)	No evidence to support social benefits of mergers.	General	Mergers
Koch (1980)	All research has shown firms to be generally less profitable following mergers.	General	Mergers
Greer (1980)	Generally only big firms with relatively large market shares tend to benefit from owned vertical integration as can use their market power to raise prices.	General	Vertical integration
Clarkson (1982)	No increase in vertical integration over time in industries.	General	Vertical integration
Williamson (1991)	Owned vertical integration generally considered the choice of last resort.	General	Vertical integration
Stuckey & White (1990)	Ownership risky, hard to reverse. Vertical integration should be used only as a last resort.	General	Vertical integration

even be greater as the industry's complexity and instability far surpass most other industries. Overall, these kinds of arrangements may actually create higher costs.

Owned vertically integrated arrangements do create the potential for greater market power, however. Increased bargaining power and the ability to augment price may be important strategically for such systems in order to pass on the increased production and administrative costs. However, market power may be transitory as a result of regulation and/or changes in the competitive market. As an industry

moves closer to an oligopolistic or monopolistic structure the probability of greater governmental regulation increases.

INSTITUTIONAL PRESSURES FOR VERTICAL INTEGRATION

Although health care managers' reasons for pursuing integration by ownership are varied, the industry is now adopting models of vertical integration that have been recognized in the past as highly successful. Organizations such as Kaiser and Group Health Co-

operative of Puget Sound have been generally accepted as highly successful forms of vertically integrated systems. Goldsmith⁵ states that many organizations in California such as Sharp in San Diego, Sutter in Sacramento, and UniHealth in Los Angeles have begun to model their systems after Kaiser. Indeed, under high uncertainty, we might expect that health care managers will attempt to reconfigure their organization in ways which emulate models that have been successful in the past.

New laws reforming health care are yet another stimulus for reconfiguration, and often specify recommended or required organizational forms. For example, Minnesota's new health reform law specifically calls for the formation of integrated service networks (vertically integrated systems) that offer capitated care in order to compete as a health care provider.⁴⁵ Other states such as Washington have also fomented widespread integrative efforts as a result of state-level health care reform legislation. Health care managers have commented numerous times to the authors that many of their efforts in creating IDs are responses to anticipated state and federal laws. These laws, even if never fully enacted, have created massive realignments of providers, and new integrated structures have proliferated.

Within the realm of state and/or federal reform, many health care systems are following the anticipated legitimate form by creating owned vertical integrated arrangements. It might be argued, then, that health care systems are responding to the current uncertainty mimetically by adopting an institutional form that they believe the majority is also selecting. Indeed, they may be behaving in a fashion consistent with Palmer's observation:

... (Organizations) adopt forms that are considered legitimate by other organizations in their field, regardless of these structures' actual efficiency. There is often substantial uncertainty about the efficacy characteristics of alternative structures. Restricting attention to legitimated structures allows firms to identify efficient satisfying (as opposed to maximizing) solutions to organizational problems while conserving time and effort.^{46(p.104)}

Many organizations euphorically "jump on the band-wagon"²⁴ and reorganize because others are doing so and because it has become the expected norm. The sheer number of organizations adopting a new structure can cause others to adopt the innovation, especially when the innovation's results are ill-defined and organizations fear that their competitors may

gain an enduring strategic advantage by its adoption.⁴⁷ Hospitals may fear the loss of referral sources as competitors appear prepared to steal members of their medical staff.

Convinced that competitors will soon adopt the new structure, individual organizations act to protect themselves. The decision of a small critical mass of hospitals to begin purchasing components of vertically integrated systems creates an escalating competitive contest as systems vie over physicians' practices and other components of integrated systems. Hospital managers have expressed concerns of "being left behind" if they are locked out of favorable market arrangements. This purchase frenzy may result in the overpricing of assets (e.g., physician practices) and result in a "winner's curse" such that the high bidder and winner of the assets is strategically weakened by assuming the assets now priced above their market value.

Emulating past successful models is a logical choice under stable environmental conditions. However, environmental factors contributing to the past success of these owned vertically integrated models may have changed enough to make these models the wrong choice for the industry's future environment. Kaiser, for example, has failed to expand its membership since 1991, has a cost disadvantage compared to other HMOs, and has recently been slow to respond and innovate.⁴⁸ Goldsmith⁵ cautions that Kaiser may now be too integrated. Health care managers, in a sense, may be choosing the best railroad for an environment that now requires air travel.

INHERENT DIFFERENCES OF THE HEALTH CARE INDUSTRY

The health care industry is inherently different from other industries. Outputs are ambiguous and difficult to measure. Much of its production is of an emergency or semi-emergency nature. There is little tolerance for error and the work entails a high degree of specialization. Organizational participants are highly professionalized with primary loyalty to their profession. Weak organizational control exists over the chief decision-making provider, the physician.^{49,50}

Economists have long recognized the market imperfections in health care, including imperfect and asymmetrical information, high levels of insurance coverage, and third party payment for services. Consumers lack pertinent knowledge and have difficulty determining quality. Clinical decisions are made and

health care services are provided by a fragmented, disjointed system. Insurance coverage and third party payment leads consumers to seek higher than optimal levels of services.^{51,52}

On the other hand, health care has come to resemble other industries in recent years by virtue of adopting many of their managerial techniques and tools. Hospitals in particular have adopted structures and tools such as matrix management, management by objectives, total quality management, and reengineering in an effort to become more efficient and to compete more effectively in local markets. Thus in a broad sense, it could be argued that many of the managerial differences between health care and other sectors are narrowing.

Some analysts argue that the inherent differences of health care may allow the industry to recombine and produce greater efficiencies in large, owned systems. Some observers, in fact, believe that *only* owned vertically integrated systems will provide cost-efficient services that will remain sustainable over time.⁵³ Do the unique features of health care themselves provide a basis for the creation of efficiencies through owned vertical integration when such arrangements have generally not met with success in other settings? Little or no research exists to support this position. Perhaps, the inherent complexities of health care and the continuing turbulence in health care markets may lead to greater inefficiencies than in other industries. Early research by Lawrence and Lorsch⁵⁴ demonstrated that greater differences in group orientations produce greater conflict. Health care is rendered by distinct professional groups whose efforts must be combined and coordinated to provide a full continuum of care in an owned vertically integrated system. Health care is also heavily labor intensive compared to other industries. The greater relational densities and potential for conflict, combined with the difficulties in monitoring, coordinating production, and transferring costs (transfer pricing) in health care, may actually create deeper managerial problems when they are joined through common ownership. These concerns have been factors in Goldsmith's and Johnson's warnings regarding owned vertically integrated health systems.^{4,5}

NONOWNED VERTICAL INTEGRATION OPTIONS

A number of alternatives to full ownership may capture the advantages of integration without the po-

tential liabilities of ownership. These include long-term contracts, partial equity investments, and joint ventures. However, these alternative structures have their own limitations, and their performance remains uncertain. As Sofaer and Myrtle correctly note:

Few empirical studies have been conducted on inter-organizational relations in health care. Those that have been done have emphasized the strategic motivations for organizational interactions, rather than . . . their observed consequences. . . . Managerial beliefs about expected consequences (motivations) are often confused with experienced consequences.^{55(p.403)}

Nevertheless, a few studies suggest that benefits can be gained through alternatives to owned integration. Fottler⁵⁶ reviews prior research indicating that increased communication and coordination improves clinical quality and patient satisfaction. Lawrence and Lorsch⁵⁴ report that firms exhibiting greater intrafirm integration also demonstrate better performance. Dyer and Ouchi,⁵⁷ studying Japanese supplier relationships, report that improved economic performance results from greater interorganizational trust and goal congruence (forms of integration). Such benefits may not be available to owned vertically integrated firms, but rather result from long-term relationships with frequent and open communication, mutual assistance, and consistent trust-building practices. These extended efforts ultimately produce organizational goal congruence and significant market competitive advantages. Little empirical research is available on non-fully owned integration and organizational performance. Absent more research, the consequences of vertical integration remain uncertain but, perhaps, more promising than ownership.

IMPLICATIONS FOR MANAGERS

Managers should carefully weigh the advantages and disadvantages of owned vertically integrated arrangements. If vertical integration is deemed necessary, managers should first seek contractual, non-owned mechanisms to accomplish their objectives and avoid the increased bureaucratic costs of ownership. D'Aveni and Ravenscraft suggest that "true competitive advantage may be gained by replacing vertical integration [ownership] with vertical relationships."^{26(p.1196)} Contractual methods may provide greater flexibility⁴ and more numerous opportunities for production sharing.⁵⁸

These "new models of integration"⁵ are not asset based models, but include agreements, protocols, and incentives. Such models are not created instantaneously, but take extensive effort, time, and experience to develop.

Managers should also be aware of the increased probability of regulation if large, owned vertically integrated systems are established. According to Conrad,¹⁸ 58 percent of the U.S. population lives in areas that would have at most two owned vertically integrated health care systems. If health care systems become dominant in their markets, they will undoubtedly face tighter regulation. Johnson warns that health care systems may become the "Blue Crosses and Blue Shields of the 21st century with all of the management, governance, and regulatory problems that the worst of the Blues are experiencing, and then some."^{4(p.2)}

Providers should also organize to halt legislative attempts to mandate or encourage owned integrated delivery systems. Legislators should instead be asked to fund relevant research and base health care laws on factual findings rather than anticipated promises. Health care industry leaders have significant opportunities to mold legislation as states position themselves to fill the void created by the failure of federal legislative reform. Health care managers must seek to assist and direct their legislators to carefully craft appropriate legislation.

SUMMARY

Health care researchers and practitioners should acknowledge and learn from other industries' experiences with vertical integration. Empirical evidence from outside health care suggests that the cost efficiency benefits of owned integrated structures are at best exaggerated and, perhaps, do not exist. In fact, results from other industries suggest that owned vertically integrated arrangements may actually produce negative effects and create more inefficient, less flexible systems. The recent health care literature promises significant efficiency and effectiveness gains for vertically integrated systems. Currently however, no reasonable evidence exists in the health care literature confirming these gains. Moreover, the models upon which owned vertically integrated systems are based are now beginning to experience severe problems.

These well-intentioned promises, reinforced by real cost pressures, are promoting a rush by providers to reorganize and reaffiliate and by state and federal leg-

islators to enact legislation encouraging or mandating integrated system. As Nurkin aptly states

The process of change (vertical integration) is a reaction to cyclical forces. The depth and breadth of this change is related to the length, depth, and breadth of public dialogue regarding the issues rather than the specifics of quality, dollars per capita expended or access to care.^{59(p.68)}

In the midst of the current rush to promote vertical integration, practitioners and policy makers alike should consider the experience of other industries, be prepared to experiment broadly, encourage careful evaluation of these experiments, and move forward better informed and hence better able to focus efforts to mold health care's new configuration more effectively.

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