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Multi-Hospital Groups

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HEALTH CARE GROUPS

INTRODUCTION

My interest in multi-hospital systems has grown out of both practical and theoretical exposure. For nine years I worked in the Los Angeles County Hospital system which operated eight separate hospitals plus a number of ambulatory health and mental health centers. On the less practical side, I have been both an observer as well as a patient of Southern California Kaiser-Permanente system for an even longer period of time.

> Centuries ago, in rural England, 'the commons' was a grazing field open to all individuals in a community. Each, addressing his own individual needs, placed further cattle upon it until the green grass died. 'The tragedy of the commons' was that no mechanisms existed for confronting each person with the inevitable fate that linked him to his fellows. All societies, this one in particular, had placed some value upon individualism and competition. This works so long as resources are relatively infinite compared with the demands placed upon them. Today resources are not infinite, and tasks are so complex that neither individuals nor single organizations can perform them altogether effectively. We are in an era of interdependence.[1]

This quotation aptly describes the environment of our times. Traditionally, hospitals have existed as freestanding, autonomous institutions, largely in control of their own destiny. In recent years, however, pressure has mounted to contain costs, to rationalize the delivery of care, to reduce unnecessary duplication of facilities and services, to increase the availability of and access to care, and to improve quality. While various legislative and regulatory schemes have been proposed or enacted as presumed remedies, what has been lacking is an examination of the basic structure of the hospital industry. The growth and development of multi-institutional arrangements represents an attempt, through organizational integration and consolidation, to restructure the industry from within in order to effectively meet the challenges being faced. Increasingly, hospitals are recognizing the need to work together, joining resources and skills. The signals are clear-increased regualtion, rising consumer expectations, limited dollars, concern over costs-that we are witnessing the decline of autonomous, individual institutions and the growth of new collaborative forms of organization.[2,3,4,5,6]

Although multi-institutional arrangements are recent phenomena in terms of growth, the idea is not a new one. Some 50 years ago, the Committee on the Costs of Medical Care advocated such arrangements,[7] and the Hill-Burton legislation in 1946 was also supportive of this notion. In 1962, McNerney and Riedel suggested interorganizational coordination in rural areas through regionalization.[8] The American Hospital Association, in its 1965 Statement on Optimum Health Services, indicated the need for "coordinated community and regional systems of facilities and services."[9] The 1968 Report of the Secretary's Commission on Hospital Effectiveness (Barr Report) noted the desirability of "combinations of hospitals as well as inter-hospital cooperation and coordination."[10] Both the Regional Medical Programs and the Comprehensive Health Planning Act of the mid-1960s clearly intended regionalization, cooperation, and integration of faciltiies and resources. More recently, the Health Resources Planning and Development Act of 1974 (P.L. 93-641) provides specific encouragement for interorganizational arrangements. In listing 10 national priorities to be used in health planning efforts, the Congress explicitly refers to such arrangements several times, urging:

> *The development of multi-institutional systems for coordination or consolidation of institutional health services (including obstetric, pediatric, emergency medical, intensive and coronary care, and radiation therapy services).
>
> *The development of medical group practices (especially those whose services are appropriately coordinated or integrated with institutional health services), health maintenance organizations, and other organizaed systems for the provision of health care.
>
> *The development of health service institutions of the capacity to provide various levels of care (including intensive care, acute general care, and extended care) on a geographically integrated basis.
>
> *The development of multi-institutional arrangements for the sharing of support services necessary to all health service institutions.[11]

Recent data, presented in Table 1, provides evidence of the magnitude of the development of interorganizational arrangements. Reporting on short-term community hospitals, Brown and Lewis found that, in 1975, 24 percent of community hospitals and 32 percent of community hospital beds were part of multiple hospital systems.[12] The data indicate that the for-profit sector already is dominated by investor-owned systems and that there is extensive penetration of systems in the

not-for-profit sector as well. Upward of 370 multiple hospital systems are said to be operating in the United States, and the degree of concentation within the industry appears to be growing.

TABLE 1

Community Hospitals and Beds in Multiple Hospital Systems, by Type of Ownership - 1975

Type of Ownership	Hospitals			Beds		
	Total	Systems	%	Total	Systems	%
Nongovernmental, not-for-profit	3,355	940	28	649,000	210,000	32
Investor-owned, for-profit	755	309	40	70,000	37,000	51
State and local governmental	1,745	156	8	207,000	46,000	22
TOTAL	5,855	1,405	24	926,000	293,000	32

*rounded numbers
Source: Montague Brown and Howard L. Lewis. Hospital Management Systems-Multi-Unit Organization and Delivery of Health Care. Germantown, MD: Aspen Systems Corporation, 1976.

ORGANIZATIONAL TYPOLOGIES

Multiple institutional arrangements may be defined as any combination of individual faciltiies under a consolidated or cooperative structure which serves to form a larger entity. This is a broad definition, recognizing that these arrangments have evolved taking a variety of organizational forms. A number of efforts have been made to categorize and describe these various alternatives. Clark, for example, has suggested that systems might be characterized in terms of the degree of their physical or organizational integration.[13] Starkweather, in his formulation, includes geographic proximity of facilities and organizational patterns in a manner similar to Clark, but he adds five additional dimensions; (1) "legal bonds," which range from implied agreements to formal agreements which replace all prior legal entities; (2) "Nature of combined services," ranging from support and administrative services only to direct patient care operations; (3) "stages and forms of production," ranging from affiliations between different organizations to transformations which lead to new forms of health care delivery; (4) "geography of population served," in contrast with geography of provider organizations; and (5) "organizational impact," which

ranges from minimal changes in individual tasks or jobs to systemwide changes, unexpected impact, and unpredictable consequences.[14] Each of these seven dimensions may be viewed as a spectrum of arrangements among institutions, representing various types and degrees of interorganizational cooperation.

DeVries, in a recent effort, has developed a scheme by which to categorize multiple hospital arrangements.[15] Using corporate ownership, corporate management, and system influence on major policy decisions as the dimensions of interest, DeVries suggests seven types of organizational arrangements. Ranging across a continuum of increasing system control, the categories include formal affiliation, shared or cooperative services, consortia for planning or education, contract management, lease, corporate ownership but separate management, and complete ownership. Variations on these basic themes have been suggested by Mason[16] and by Reynolds and Stunden.[17] For purposes of reviewing the current status of interorganizational arrangements and to point to some recent developments, a formulation drawing primarily on DeVries and Starkweather will be used. Emphasis will be placed on ownership, degree of management centralization, extent of policy control, and geographic proximity of facilities. The types of arrangements to be included fall into two major categories-multiple ownership and single ownership. Within each of these categories, the predominant organizational forms will be discussed.

MULTIPLE OWNERSHIP

Shared Services

The first category of interest is that of shared services or affiliations, representing the least pervasive types of arrangement between two or more organizations. Consolidation applies only to a specific program or service, which may be clinical or administrative in nature. Within the joint or shared venture, all participating parties are at risk.[18] Ownership of the participating institutions continues to be separate, management remains decentralized, and major policy control is retained by each separate organization. Geographic proximity can vary in shared service or affiliation arrangements. That is, there are illustrations of services shared among organizations in geographic proximity, for example shared laundry services, as well as services such as joint purchasing, which can be shared by organizations that are geographically dispersed.

Sharing of services among institutions is widespread. A 1971 survey of short-term community hospitals indicated that two-thirds of the responding hospitals were involved in some form of sharing.[19,20] An extensive list of shared services

was categorized into four groups: medical facilities and care, manpower resources, administrative and other services, and continuing education/in-service training programs. Results indicated that the greatest concentration of sharing was in the area of administrative services and secondarily in medical facilities and care. While blood banking, a medical service, was reported as the single most frequently shared service, eight of the next nine most common shared services were administrative in nature. Among the eight, purchasing of various types of supplies was predominant.

Taylor, in 1975, found evidence of substantial sharing among hospitals of all types, with the greatest degree of participation occurring in short-term general community hospitals, particularly nongovernmental, not-for-profit facilities.[21] Administrative services remained the most frequently shared, led by purchasing, electronic data processing, educational training, laundry, insurance programs, credit and collection, and management engineering. Most commonly shared clinical services included blood banking, laboratory services, and diagnostic radiology. The data indicate significant expansion of sharing since 1970, with the rate of growth for administrative services exceeding that of clinical services.

Sharing of services has taken place within various types of arrangments. Among the alternatives are: referred services, in which an institution provides the services to other participating institutions; purchased or joint contract services, where a group of institutions has cooperatively negotiated one contract with one provider of a service or resource; multisponsored services, in which the service is organized and operated on a cooperative basis by the participating institutions, often through creation of a separate organization; and regional service, which is organized and operated through a local, state, or regional association.[22]

A recent development is the emergence of shared activities across multi-hospital systems. Such intersystem sharing is evidenced by the creation of Associated Hospital Systems (AHS), a group composed of 10 nonprofit multi-hospital systems with some 240 facilities and almost 29,000 beds.[23] Also of interest is the formation of the Voluntary Hospitals of America, Inc. (VHA), a for-profit cooperative which includes some 30 large hospitals and hospital systems.[24] Fitschen has argued that the for-profit mode will enable the cooperative to avoid certain restrictions on the scope of its activities and to allow for retention of

profits.[25] In both AHS and VHA, shared purchasing represents an area of initial activitiy. Of special note is the move to expand such purchasing into the realm of capital equipment. Traditionally, joint purchasing has focused on low unit cost, high volume supplies. The move to joint capital purchasing suggests concern with low volume, high unit cost equipment. These two groups continue to explore common problems and seek to identify areas of potential for shared arrangements. Overall, shared services represents a growing form of interorganizational activity.

CONSORTIA

The second type of arrangement is the consortium, a cooperative venture in which a group of institutions engage in joint planning, notably for clinical services. The institutions involved usually are geographically proximate, and their activities may result in a reallocation of clinical and medical services for a geographically definiable population. Within a consortium, each hospital maintains its corporate ownership and identity, but a central coordinating body typically is established. Thus, consortia do influence major policy decisions for member hospitals but do not affect management control.

While the basic thrust is in joint planning, several consortia have been active in sharing both clinical and management services. Coordination and integration of medical staffs has also been a component of much of the consortia effort. While the membership of a consortium may include diverse types and different size institutions, a common theme is recognition of the equality and interdependency among the participating organizations.[26,27,28]

MANAGEMENT CONTRACTS

A third category is the management contract, or full management without ownership. In this arrangement, the servicing organization assumes full responsibility for day-to-day management. Ownership and legal responsibility, however, are retained by the managed institution. The servicing agency does exert some influence on major policy decisions, and management contracts have been arranged between organizations both geographically proximate and geographically dispersed. Brown has argued that such an arrangement allows the servicing organization to grow and expand while the managed facility receives needed skills and expertise.[29,30]

In the not-for-profit sector, several recent surveys indicate that the management contract has been and will continue to be a rapidly growing approach to interorganizational arrangements.[31,32] Of particular note is the increasing use

of management contract arrangements by small, rural hospitals often faced with severe financial, service, and manpower problems.[33,34,35]

Within the investor-owned sector, management contracts have, for some time, been viewed as a desirable means of organizational growth.[36,37] Among many of the investor-owned systems, management contracts are expected to be a major area of expansion, although there will be continued activity in acquisiton of existing hospitals or building of new hospitals.[38,39,40] It might be added that the investor-owned systems, while primarily servicing for-profit hospitals, have contracted to manage a number of nonprofit hospitals as well. While early contracts often involved hospitals which were in very serious difficulty, management companies are now showing increasing selectivity, looking for institutions which could be viable or are already doing reasonably well but which could still benefit from the arrangement.[41]

The recent growth and development of management contracts in both the nonprofit and for-profit sectors is summarized below in Table 2.

TABLE 2

Growth and Development of Management Contracts

	1977		1978	
	Facilities	Beds	Facilities	Beds
Nonprofit	35	3,756	46	5,038
For-profit	240	25,810	290	34,195

Source: Donald E. L. Johnson, "87 multi-hospital systems grew 10%; predict 9% expansion in 1979". Modern Healthcare, 9:46, April 1979.

LEASES

A lease arrangement is somewhat similar to a management contract in that it provides full management without ownership. However, a major distinction is that under a lease arrangement major policy decisions are made by a corporate board separate from the owners of the managed institution. In essence, the lease transfers possession of hospital property and equipment, for a specific number of years and for a specified rental, along with responsibility for the operation and maintenance of the hospital. The board of trustees of the leased hospital often continues to exist, albeit in an advisory capacity. Thus, control of both policy and management are assumed by the leasing organization. Lease arrangements

do not appear to be constrained geographically in that there are examples both proximate and dispersed.[42,43]

SINGLE OWNERSHIP

Decentralized

Within the single corporate ownership model, the first category is characterized by separate or decentralized governance and management. There is usually modest system influence on major policy decisions of the individual hospitals. The hospitals, often geographically dispersed, are typically full service institutions with their own community boards of trustees. Thus, while legal ownership is centralized and there may be a corporate level management staff, there remains a high degree of management and policy autonomy at the local level. Exemplifying this type of structure is the not-for-profit chain of a religious order, such as those owned and operated by Catholic orders.

In recent years, concern for the continued viability of Catholic sponsorship has led to discussion of a number of possibilities for restructuring these chains.[44,45] Among the alternatives proposed, one model would have Catholic hospitals either adding other Catholic hospitals to their systems under the same ownership or serving other Catholic hospitals through shared services or management contracts. A second alternative would be to add, through acquisition, hospitals from different congregations, necessitating a change in corporate structure to reflect the new affiliation. Third, large Catholic hospitals might provide management contract services to smaller, often rural, Catholic hospitals. A fourth possibility is a consortium among Catholic hospitals, located within defined geographic and political boundaries. Yet another alternative suggested is the creation of an umbrella corporation or holding company, through which shared services and management support could be provided to participating institutions and which could serve as a base from which to assume management responsibility or ownership of other hospitals.[46,] Thus, a broad and far reaching set of possibilities are under consideration as alternatives to the currently predominant model.

Centralized

The second type of single ownership is that within which governance and management are largely centralized. A variety of types of arrangements fall within this category, including satellites, holding companies, investor-owned chains, hospital authorities, and mergers. All of these are structured such that the central corporate offices control major policy decisions. Management control tends to be centralized, although there is some variation among the several arrangements. Among nonprofit systems there are instances of both geographic

proximity and dispersion within this cateogry.

An example of the centralized single corporate ownership type is the satellite or branch facility, which may be a hospital or ambulatory care center. The satellite, spun off by an existing hospital, is often located in a suburban area while the parent organization is located in an urban setting. There is a single board of trustees, a single medical staff, and the administrative staff is employed by the corporate organization. These satellite arrangements have served to respond to population shifts, thus expanding patient markets and referral networks.[47,48]

Also illustrative of this category is the hospital holding company, patterned after an approach common in the banking industry. There is typically a corporate board, with representation from member institutions, as well as local advisory boards. Corporate level staff specialists are available for management consultation. In some cases, a regional executive may oversee a group of member institutions.[49] The holding company approach is designed to centrlaize control of policy and capital allocation decisions at the corporate level, while retaining decentralization and local autonomy for operating responsibility.[50,51,52] The investor-owned chains often are structured along these lines, although the degree of decentralization for operating decisions varies across the corporations.[53]

Yet another example of centralized single ownership is the merger. Merger occurs where two or more previously independent organizations come together to form a new organization through either (a) pooling assets, with each organization losing its identity to form a separate, new corporation or (b) acquisition, with one organization dissolving and being absorbed by another.[54] By definition, all policy and management control is centralized within the newly formed organization. Merger often occurs among urban institutions in geographic proximity and with overlapping markets or service areas.

There are, then, a variety of arrangements by which multi-institutional systems have evolved. The systems vary in terms of ownership, policy and management control and centralization, and geographic dispersion. A review of the typologies proposed thus far indicates that they are probably not exhaustive nor are the categories mutually exclusive. Some of the organizational types discussed are in fact a mix of several categories. For instance, holding companies may have members included via mergers or satellites, and they also may be involved in sharing services and providing lease arrangements and management contracts. Rather than discrete organizational types, what we may be witnessing is a

cumulative scale as one moves along an increasingly pervasive continuum of integration. Further, while a number of organizational arrangements have been described, certain of these represent identifiable structures but others may be more appropriately viewed as processes by which organizations coordinate or consolidate activities. The classifications developed to date offer a sound foundation to begin to understand the ways in which interorganizational arrangements have developed. It is equally clear, however, that there is yet work to be done in the formulation of organizational typologies.

THE PROMISE OF MULTI-INSTITUTIONAL SYSTEMS

As multi-institutional systems have evolved, a number of potential benefits have been ascribed to them. Three types of benefits are described, categorized as economic, manpower, and organizational. Further, these benefits may be viewed at two levels. The first, the institutional level, refers to that set of advantages to be secured by the multi-institutional systems per se and/or by their individual members. The second, or community level, refers to the benefits presumed to accrue to the people served by these systems. The promise of multi-institutional systems may thus be framed in terms of benefits to providers and/or consumers. Such a formulation will enable us to evaluate the performance of multi-institutional arrangements in light of these anticipated benefits.

ECONOMIC BENEFITS

The first type of benefit revolves around the notion of economies of scale. At the institutional level, organizational consolidation should lead to improved utilization of resources, both capital and operating. Increase size should enable the system, through coordinated activities, to meet the same level of demand with less capacity than that required by separate facilities.[55] This advantage is particularly relevant for systems which are geographically proximate. Larger scale of operations also allows for specialization of personnel and equipment, increased productivity, and lower staffing requirements.[56,57]

Another potential economic benefit lies in the ability of systems to secure capital financing unavailable to freestanding institutions. The strength of systems provides improved access to capital markets, reduced costs of borrowing money and the sharing of financing fees. Systems are viewed as a lower credit risk since the financial risk of individual facilities is spread over a larger operating and financial base.[58,59,60]

Economies of scale are also expected from shared services activities such as joint purchasing, which allows large volume buying, lower unit costs, and greater discounts for the participating institutions.[61,62] Many of these economic benefits are applicable across the continuum of system configurations.

A number of the economic advantages cited at the institutional level may also accrue to the communities being served. For example, larger scale of operations may lead to reduced operating costs which, in turn, may result in lower prices to consumers.[63] Multi-institutional systems may also serve to rationalize the planning process. By coordinating development of programs and services, systems can move toward planning at the community or regional level rather than focusing solely on individual hospitals.[64] This rationalization of the planning process may be a means to avoid duplication of facilities and services, to improve the allocation of resources, and to reduce excess capacity.[65] At the community level, benefits of such rationalization have both economic and qualitative implications.

MANPOWER BENEFITS

For the second type of benefit, manpower, it has been argued that systems have advantages at the institutional level in terms of recruitment and retention of both clinical and administrative personnel. For clinicians, there is generally a broader range of services and programs, different levels of care, and access to specialized personnel and equipment. Availability of specialists allows for consultation, continuing education, expanded patient referral networks, and simplification of vacation and educational leaves.[66] A stronger and more integrated clinical organization has been said to lead to improved quality of care throughout the system, and coupled with a more complete data base, may lead to innovation in peer review processes.[67]

A strong management capability is seen as vital to coping with an increasingly complex environment. The capability of systems to attract and keep competent managers is considered a major attribute.[68] At the corporate level, the organization can use its greater management capacity to strengthen the system in total. At the individual institutional level, hospitals have access to specialized management talent and may be in a stronger position to recruit inhouse administrative personnel. Multi-institutional systems can provide improved professional opportunities and a stimulating managerial environment.[69] Systems often consist of different types and sizes of institutions in various geographic locations, offering managers career mobility while enabling them to remain within the system.[70] It has also

been suggested that the availability of a sound management structure, along with financial stability, is an attractive feature in the recruitment and retention of physicians.[71]

The ability to recruit and retain clinical and administrative manpower can be advantageous not only to the institutions involved but to the community served as well. Systems can attract high quality clinical personnel, can offer greater technical expertise and specialization, and improve the distribution of health manpower.[72] Likewise, greater depth and expertise in management should provide for stronger, more viable organizations to serve the population. To the extent that such manpower availability serves to enhance quality of care, people being served by systems thereby benefit.

ORGANIZATIONAL BENEFITS

The third area, organizational benefits, is also perceived to accrue from the development of multi-institutional arrangements. At the institutional level, these arrangements represent opportunitites to expand service areas, increase market penetration, and open new patient referral networks, thus providing for organizational growth.[73] For institutions in underserved areas, linkage to systems may provide access to services and personnel otherwise unavailable.[74,75]

Along with the opportunity for growth, in many cases the institutional benefit derived is organizational survival itself. It has been noted, for example, that financial deficits, manpower shortages, and severe facilities problems have led to mergers and other types of consolidation in order to allow the institutions involved to survive.[76]

Multi-institutional systems are expected to have greater "clout" in the political arena. The strength of numbers suggest increased power for systems in relationships with external agencies, such as government, third party payers, and planning and regulatory bodies,[77] along with more influence in the local health community. This view recognizes both the political nature of hospital activity and the potential impact of a collective approach.[78]

Organizational benefits derived from the development of systems may also serve the community. Growth and expansion can improve access to care and to clinical and administrative services and programs otherwise unavailable.[79] This attribute is of particular importance to people in underserved areas. Yet another potential benefit is a broader, more comprhensive range and scope of services available to the population.[80]

Thus, we see that there are economic, manpower, and organizational benefits expected from multi-institutional arrangements, at both the institutional and community levels. These anticipated benefits are summarized in Table 3. This formulation of expectations and promise provides us with a context within which to review the performance of multi-institutional systems.

TABLE 3

Summary of Anticipated Benefits of Multi-Institutional Systems

Type of Benefit	Level of Benefit	
	Institutional	Community
Economic	Cost savings via economies of scale operating advantages, e.g. increased productivity improved utilization of resource capacity lower staffing requirements reduced unit costs from joint activities financial advantages, e.g. access to capital markets improved credit standing reduced borrowing costs	lower prices reduced duplication and excess capacity of facilities improved resource allocation
Manpower	improved recruitment of clinical and management manpower improved retention of clinical and management manpower strong clinical and management capability	greater access to and availability of breadth and depth of clinical and management manpower improved distribution of health manpower
Organizational	organizational growth, e.g. extend referral networks penetrate new markets expand existing markets organizational survival, e.g. financial improvements accreditation standards greater political power	improved access to care increased availability of services broader, more comprehensive scope of services

The potential benefits just introduced seem to have approximately equal applicability regardless of which ownership typology practices the concept.

THE PERFORMANCE OF MULTI-INSTITUTIONAL SYSTEMS

As indicated above, the performance of multi-institutional systems will be reviewed in light of their promise. The discussion will be framed in terms of the anticipated economic, manpower, and organizational benefits as they relate to the institutional and community levels. Where possible, reference will be made to particular types of interorganizational arrangements. Finally, this review will be limited to evaluations which have taken the form of published studies, reports, or theses.

ECONOMIC BENEFITS

Assessment of the economic benefits of multi-institutional arrangements is the area which thus far has received the greatest attention. In a study by the Health Services Research Center of the Hospital Research and Educational Trust and Northwestern University, the programs of 16 shared service organizations were selected for evaluation.[81] Services were categorized into four groups; medical and clinical, manpower, administrative and supportive, and education and training. Four different types of structural arrangements were included: referral service, purchased or joint contract service, multisponsored service, and regional service. The effects of sharing were measured in terms of cost, accessibility, availability, comprehensiveness, quality, and acceptance. Data were collected primarily through available documentation and interviews with individuals at the study sites, through which investigators sought to assess the impact of sharing on the services involved.

Analyzing the various structural arrangements, the investigators reported that results with regard to cost were generally mixed, including several instances in which the shared arrangement had an adverse effect. By type of service, improvements in costs were found among medical services. Mixed results on costs were reported for administrative and manpower services, while costs for educational services increased. Improvements were noted in quality, comprehensiveness, and access; however, the investigators concluded that to achieve these improvements, there was an increase in costs.

In another part of this study, aimed specifically at the economic impact of sharing, investigators evaluated five shared services (personnel/collective bargaining, blood banking, laundry and linen, obstetrics and pediatrics, and printing) in six case studies. Economies of scale and resultant cost savings

were demonstrated, particularly in administrative services. Savings were achieved via standardization, reduced unit cost of production through increased volume of processing (laundry), and joint purchasing of blood, supplies, linen, and forms. Reduced capital requirements were reported and, where capital was needed, access to financial markets was found to be improved.

The major improvement found in medical services was in the planning, scheduling, and utilization of facilities and manpower, where the larger scale of operations achieved through sharing led to reduction in random fluctuations in demand and allowed lower reserve capacity requirements.

In an evaluation of another type of organizational arrangement, Biggs compared performance of traditionally managed nonprofit hospitals to nonprofit hospitals operating under a management contract with a for-profit corporation.[82,83] Using a matched sample of hospitals, Biggs paired traditionally managed and contract managed hospitals on the basis of number of beds, geographic location, population base, average per capita income of population, type of ownership and control, and presence of a medical education program. The matching yielded 32 pairs of hospitals, data from which were collected through a survey questionnaire.

In general, contract managed and traditionally managed hospitals appeared to be comparable. That is, within each of the parameters used for evaluation, there were more similarities than differences between the types of hospitals. There were, however, some differences of note. For example, one of the dimensions of interest in this study was economic accountability, defined in terms of the cost of hospital care. Biggs found that contract managed hospitals had a lower cost per stay than traditionally managed hospitals. While contract managed hospitals had higher per diem cost, this was offset by their shorter length of stay. The differences in cost between the hospital types, however, was not statistically significant. Contract hospitals also had fewer employees per bed, and experienced a somewhat lower proportion of total expenses devoted to payroll.

In a study of hospital mergers, Treat attempted to evaluate what he termed efficiency and effectiveness of a group of urban and rural hospitals before and after merger.[84] Efficiency measures were average cost per case, average cost per patient day, bed turnover rate, and employees per patient, while indicators of effectiveness included an index of services available, patient days, and number of approved programs. Using American Hospital Association survey data, Treat matched 32 pairs of merged with independent hospitals, using as parameters

length of stay, services, geographic location, facilities, bed quantity, and number of admissions. Performance measures then were calculated for groups of paired hospitals according to size (over and under 300 beds), location (cities over and under 50,000 population), and time period (1 year before merger, and 3, 5, and 7 years after merger).

Results indicated that, among merged urban hospitals, there was an increase in service capability which was accompanied by a significant increase in cost. Thus, while patient days declined, both services and programs increased, again with a concomitant cost increase. Among merged rural hospitals, a different picture emerged, in which both effectiveness and efficiency improved. Rural mergers yeilded higher occupancy, greater labor intensity, reduced length of stay, higher cost per day but lower cost per case.

Treat concluded that mergers, at least in urban areas, may not be a desirable structural alternative to improve cost efficiency and, in fact, may lead instead to diseconomies of scale.

The Samaritan Health System, based in Phoenix, Arizona, has been the subject of several evaluations. In a study by Neumann, which involved a financial analysis of the Samaritan system, it is reported that the rate of increase in the average cost per stay in the Samaritan system was not significantly different from that of a control group.[85]

Neumann indicates that while there were demonstrated cost savings, notably in support areas, these did not result in a lower average cost because of the small unaccredited hospitals in the system whose scope of services and quality were upgraded. That is, start up costs of the system and increased service capabilities, particularly the addition of services which were previously unavailable to rural areas, were responsible for the lack of visible economies. The financial advantages that did accrue spread the risk of bankruptcy over a larger asset base, stabilized the flow of funds from operations for the entire system, and provided access to external sources of capital funds to individual hospitals within the system.

An earlier evaluation of this system by Edwards and Astolfi also noted the financial advantages achieved and further stressed the start up costs and increased service capability as key factors in explaining the absence of economies of scale.[86,87,88]

A re-evaluation of the Samaritan system was part of a larger study on multihospital systems sponsored by the Hospital Research and Education Trust in 1975.[89] Findings from this study are consistent with those of Newumann, i.e., average cost per case was greater and grew at a faster rate than that of a control group. The key factor reported to explain this finding was the cost involved in bringing the weaker hospitals in the system up to standard both financially and qualitatively.

In one of the more comprehensive studies to date, Cooney and Alexander compared the costs and revenues of eight nonprofit systems with those of a matched set of autonomous hospitals.[90,91,92] The systems ranged in size from two to seven hospitals, and in age from brand new to 12 years. The time period studied was 1967-1972. In general, seven of the eight systems proved to be cost effective when compared to the control hospitals. The system hospitals had a lower level and a slower rate of growth of average cost per case. They also showed lower gross patient revenue per stay and a slower growth rate of average gross revenue. Output of system hospitals was higher, measured as inpatient admissions adjusted for ambulatory services, despite a slower growth in bed capacity. Average length of stay was found to be lower in multihospital systems. There was also a slower growth in manhours per case. While wage rates were higher within the systems, this was not accompanied by higher labor costs.

The researchers did note immediate increases in expenses with the systems as a function of start up costs and the trauma of substantial organizational change. Over time, however, the cost situation changed in favor of the multihospital systems. Although some savings were achieved by reduction of direct expenses in clinical areas, economies of scale were most easily achieved in the hotel services. This was attributed to adaptability of labor saving technology, high utilization of bulk of bulk purchases supplies, and the lower level of conflict and absence of disputes over "turf". The reduction in manhours per case suggests greater capital intensity, more use of technology, and increased productivity within the systems. The authors speculate that the emphasis on cost control and facility utilization might be serving to encourage physicians to change their behavior and to adopt measures aimed at reducing length of stay. In one of the few direct indications of economic benefit at the community level, it is reported in this study that the savings realized were passed along to consumers in the form of lower prices.

Coyne, in a recent study, attempts to measure and determine the impact

of organizational characteristics on the performance of hospitals across several types of multi-unit systems.[93] Systems were defined as three or more hospitals under the direction of a single governing board and single administration. Thus excluded were shared service organizations, consortia, and management contracts or leases. Eight nonprofit and six investor-owned systems were included, with data collected via mail questionnaire and interviews. To evaluate performance, Coyne selected average cost per patient day and occupancy as measures of efficiency.

Coyne employed a number of control variables for environmental characteristics, specifically population density, factor price differences per census region, and number of hospitals per county as an indicator of the extent of competition. For system organizational characteristics, he classified ownership as religious, other nonprofit, or investor-owned. Type of management structure, representing the division of authority and responsibility between corporate offices and hospitals, was characterized as functional, geographical, or institutional. Geographic dispersion among facilities and between facilities and corporate offices was arrayed as local, regional, multiregional, and national.

Using occupancy as the outcome measure, Coyne reports occupancy to be influenced by the type of system ownership. Religious order hospitals were found to have occupancy rates significantly higher than the other ownership types. Hospitals in geographically concentrated systems, with a high degree of centralized clinical and administrative services, were found to reduce duplication and have higher utilization than geographically dispersed systems with few centralized services. This is attributed by Coyne to patient referral networks and greater consolidation of medical staff organization.

With cost as the measure of outcome, Coyne found ownership was not associated with efficiency. Controlling for size and for organizational and environmental characertistics, costs in investor-owned hospitals were not significantly different from those in nonprofit hospitals. In highly centralized systems, the level of capital expenditure authority of the administrator was found to be associated with cost efficiency. As this authority rose from low to medium, efficiency increased; however, beyond the medium level, cost efficiency decreased. Within functionally organized systems, as geographic dispersion increased, communication and coordination problems grew and efficiency decreased. Institutionally organized systems were found to be more efficient than either functionally or

geographically organized systems, leading Coyne to suggest that cost efficiency may be highest in the more autonomously structured systems.

Overall, Coyne argues that the systems owned by religious orders, institutionally structured, provide for sufficient management autonomy while retaining certain policy prerogatives in the governance function, the net result of which is greater control of costs and utilization than found in more centralized systems.

In summary, the evidence as to achievement of the anticipated economic benefits of multi-institutional arrangements appears to be mixed. At the institutional level, several studies point to increased productivity, better utilization of resource capacity, and cost-savings through joint activities. In addition, there is some evidence of reduced costs of borrowing money as a result of better credit standing. On the other hand, there is also evidence of lack of success in attaining expected economic benefits. The study on shared services reported cost increases in a number of areas. Treat's study of mergers found that, in urban mergers, utilization of resource capacity declined, productivity fell, and there was a significant increase in costs. Likewise, the studies of the Samaritan system indicate a situation of rising costs. However, in several of the studies, investigators point to improved access to care, greater availability of programs, and provision of a broader range of activites as the factors explaining the absence of economic benefits. There is presumably a trade-off made between the organizational benefit of improved service capability at the community level and economic benefit in the form of cost savings at the institutional level.

While the data on economic benefits at the institutional level are mixed, there is a general lack of evidence on economic benefits at the community level. The major exception is the Cooney and Alexander study in which lower prices were reported in multihospital systems vis-a-vis the control groups.

It must be added that the issue of whether economic benefits have been secured is confounded by methodological problems in a number of the studies. For example, findings reported in the study of 16 shared services organizations were based on limited documentation and on individual perceptions of the impact of sharing. Detailed cost data generally were not available, restricting the rigor of the analysis. In some cases, the outcome measures employed may be suspect. For instance, it is not clear that cost per patient day is an appropriate measure of "cost efficiency." Another complicating factor is the potential change in the mix, may vary, thereby confounding the analysis. That is, in the absence of

control factors to assure that we are measuring the same phenomena, it is difficult to discern if indeed economies of scale have been achieved.

MANPOWER BENEFITS

Manpower benefits at the institutional level concern the recruitment and retention of both clinical and management personnel. Only some of the studies explicitly address this issue. Treat, for instance, found that rural hospitals which merged improved their ability to recruit personnel.[94] Cooney and Alexander reported that although the Samaritan system devoted substantial effort to recruitment of physicians for the rural hospitals, there was only modest success. Further, there continued to be problems of retention.[95] At the community level the studies of the Samaritan Health System indicate that the rural hospitals in that system did indeed benefit from the availability of management and clinical consultation services and from educational programs.[96] This additional specialized personnel was seen as instrumental in upgrading the quality in the rural hospitals served by the Samaritan system.

It is reasonably clear that many systems have been able to attract and retain management personnel. Cooeny and Alexander, in their study of a number of systems, reported on issues in the use of such talent.[97] Based upon discussions with administrative personnel within 16 systems, they found that a hospital based administrative staff was viewed as the preferred structure for local systems of up to four or five hospitals. Beyond these parameters, the corporate staff structure was preferred. Such a corporate staff offered the advantages of providing specialized expertise in areas to which hospital based staff cound not attend. This expertise could also be shared across hospitals in the system. There were noted difficulties with corporate staff, however, such as their tendency to over-control member hospitals, to limit local decision making, and to slow the decision making through added approval requirements. Across the systems, there may exist problems between corporate and hospital staff of lack of a uniform perspective or understanding of their respective roles within the system.

To summarize, the data provide some support for the expectation of improved recruitment and retention of personnel. In several instances, multi-hospital systems and their individual institutions were found to have secured manpower benefits, although physician recruitment and retention continues to be a matter of concern. The anticipated benefits of specialized management capability have, to a large extent, been realized for the systems and member institutions, but problems of interrelationships apparently require attention. The communities

served by multi-institutional systems appear to be benefiting, quantitatively and qualitatively, from the availability of specialized clinical and managerial talent.

ORGANIZATIONAL BENEFITS

The evidence to date would indicate that a number of the expected benefits at the institutional level have been achieved. In the studies of the Samaritan system, it was reported that the organizational survival of several urban and rural hospitals was a result of joining this multihospital system.[98,99] The hospitals involved benefited in terms of financial capability, operating systems improvements, and a greater ability to meet accreditation and licensure standards. It is quite clear that organizational growth has occurred, and that markets and service areas have been expanded. As part of their study, Cooney and Alexander reviewed some of the issues related to organizational growth via formation of multi-institutional arrangements.[100,101] Their analysis included 16 multihospital systems, ranging from a two hospital satellite system to a multistate system of over 80 hospitals. Involved were systems both old and new, large and small, nonprofit and investor-owned, interstate and regional. The systems represented were from urban as well as rural environments. Structurally, there were instances of merged and mixed governing boards, combined and autonomous medical staffs, and centralized and decentralized operating management responsibilities. To gather the requisite data, administrative personnel from the systems were asked for their perceptions of the organization and the environment.

In general, findings showed that systems operating six or more hospitals tended to be more structured and formalized, but were perceived as less effective in accomplishing tasks and achieving organizational goals. Older systems, seven years and over, were seen as being less formalized, better able to cope with the environment, having superior organizational communication and coordination, and were generally more effective in accomplishing goals and tasks. Thus, it was suggested that the benefits attributed to organizational growth and expansion might be constrained by the size of the organization and may require substantial time to achieve.

At the community level, the study of shared services revealed that, across the types of arrangements, quality of services along with the comprehensiveness of accessibility to services were perceived to have improved.[102] In terms of the types of services (medical, administrative, educational, and manpower), quality was seen as the most improved factor, followed by comprehensiveness. Quality

and comprehensiveness and, to a lesser extent, access were the most consistently reported areas of improvement resulting from shared services. It must be reiterated, however, that these improvements were accompanied by increases in cost. Further, the researchers noted problems relevant to access, as a result of resource reallocation and transportation difficulties.

Biggs, in his study comparing contract managed with traditionally managed hospitals, reported a different result. He found few significant differences in terms of services and programs offered, facilities and manpower available, or the resultant quality (with the exception of a higher consultation rate in contract managed hospitals)[103]

Biggs also explored the nature of the relationships, which he termed social accountability, between the hospitals and their various constituencies. He found that contract managed hospitals were more likely to use the media to inform their communities about hospital activities, and were significantly higher in the use of questionnaires for discharged patients to evaluate their hospitalization. Biggs suggested that contract managed hospitals appeared to be somewhat more aggressive in developing strategies to deal with their environment and to relate to their communities.

As noted earlier, Treat, in his evaluation of mergers, found increased service capability in both urban and rural hospitals.[104] In the studies of the Samaritan Health System, findings consistently showed community-level benefits in terms of increased comprehensiveness, access, and availability of services.[105,106] It was argued that these benefits served to improve the quality of care offered to people in the rural areas.

In the Cooney and Alexander study of the Samaritan system, organizational growth was found to result in a greater number of services becoming available to the service population of the rural hospitals.[107] It was noted, however, that the delivery site for many of the services was not the rural hospital itself but rather was through referral arrangement to the larger urban hospitals in the system.

Overall, the studies suggest that expected organizational benefits at the institutional level have been realized. Evidence has been presented to indicate organizational survival and organizational growth. While increased political power has been suggested as an organizational benefit, there does not yet appear to be empirical evidence to assess. At the community level, several of the studies

point to achievement of improved access to care, greater availability of care, and a broadened range and scope of hospital services for the people served by multi-institutional systems. It has been presumed that the improvements, along with structural changes made within the affiliated organizations, have served to enhance the quality of care provided.

SUMMARY

On balance, one of the more consistent findings in these evaluations lies in the organizational benefits of improved access, availability and scope of hospital services for those in previously underserved areas. Benefiting particularly are rural institutions experiencing operating deficiencies, and their service populations. That these benefits often have been accompanied by increases in costs should not be surprising. To the extent that many interorganizational arrangements have as an objective increased service capability, it would not be unreasonable to expect concomitant increases in cost. A key problem noted earlier, however, is that since the resource and product mix may well have changed, we do now know if such increases are in fact concomitant.

Manpower benefits have received relatively modest attention in these studies. It is evident that management capability has been enhanced. While some success in the recruitment and retention of clinical personnel has been reported, there remain difficulties in this area.

The evidence as to achievement of economic benefit is mixed, at best. Those economic benefits reported are primarily in the hotel and support service areas, where labor saving technology is easily applied and where turf disputes are minimized. The Cooney and Alexander study provides the most positive findings thus far with regard to cost savings, but it does reemphasize the need to allow sufficient time for economic benefits to accrue.[108] While savings have been reported in the administrative areas, there would appear to be far greater potential through integration of patient care and medical service areas.[109,110] Generally, however, such integration has not been very widespread and is perhaps most applicable at the local or regional level where markets can be restructured.[111]

While multi-institutional arrangements have shown dramatic growth, now representing a significant portion of the hospital industry, there is available relatively little research or evaluation. Reviewing the anticipated benefits, several important areas of interest still require assessment. For example,

economic benefits at the community level remain largely unexplored and manpower benefits have had but limited attention. The conditions under which increased service capability (quantitative and qualitative) offset achievement of economic benefit, and the long-run impact of such a trade-off is a central policy issue which must be addressed. Further, the implications of different types of organizational arrangements with regard to their impact on the achievement of economic, manpower, and organizational benefits merit significantly greater investigation.

Among the studies reviewed, problems of the measures used and potential changes of resource, case, and product mix have been noted. Some of the samples have limited generalizability and several studies are cross-sectional and do not account for changes over time. Indeed, Studnicki has suggested that multihospital systems per se are perhaps too broad and complex a concept for explaining changes in outcomes; rather what is needed is greater specificity and selectivity among the units of analysis.[112]

The work done thus far offers us a beginning as we attempt to understand the dynamics and the impact of interorganizational arrangements. However, we still lack a substantial body of empirical evidence on the real and total effects of roganizational integration. While some of the anticipated benefits have been realized, and while the promise is significant indeed, there remains much to be done by way of determining the relationship between that promise and the performance of multi-institutional systems.

BARRIERS TO MULTI-INSTITUTIONAL SYSTEMS

As we attempt to assess the performance of multi-institutional arrangements in light of their promise, it becomes clear that a number of environmental barriers exist that serve to impede their development and the realization of potential benefits. While a variety of forces have operated to encourage their formation and growth, at the same time there are countervailing forces. In the legal area, especially antitrust and tax laws, and in the financial area, particularly in reimbursement mechanisms, a number of developments appear to be moving in quite a different direction, serving to constrain interinstitutional arrangements and thus preclude or dampen the achievement of their objectives.*

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*Much of the material in the following three sections is adapted from Vraciu, R.A. and Zuckerman, H.S. "Legal and Financial Constraints on the Development and Growth of Multiple Hospital Arrangements," Health Care Management Review, Winter 1979, Aspen Systems Corporation, Germantown, MD.

ANTITRUST

Antitrust laws, notably the Sherman and Clayton Acts, are designed to preserve and promote free competition within the economy In general, these laws apply to two areas: anticompetitive conduct (e.g., price fixing, territorial division, boycotts) and anticompetitive structures (e.g., mergers, expansion, integration of organizations).

To this point, the hospital industry has not been exempted from the application of the antitrust laws and a series of recent court actions would indicate that hospitals in general and multi-institutional systems in particular may be subject to the restrictions of the antitrust laws. Many activities of these systems could be construed to constitute anticompetitive behavior and one must conclude that, regardless of the motive for the behavior, prosecution is possible. Drawing on a recent review of this situation,[113] examples of activities where hospitals and multiple hospital systems may be vulnerable are summarized below:

1. Hospital mergers which "substantially lessen competition or create a monoply" may be in violation of Section VII of the Clayton Act. Hospitals in a close geographical area which are contemplating merger as the means of integration (regardless of the intent) face possible civil suit.

On this issue, Starkweather, Greenawalt and Mehringer have noted that the concern of the Justice Department revolves around high or increasing concentration or domination in a local market.[114] This concern with the nature of the market is of particular interest to local or regional systems, serving a geographically defined population. Urban hospital mergers or consortia, for example, might be especially vulnerable. National or multiregional systems, such as the investor-owned or religious order chains, may not be similarly affected.[115]

2. Sharing budgets and discussions of prices by hospitals under separate corporate ownership could constitute price fixing prohibited under the Sherman Act.
3. "Cooperative attempts" by hospitals to divide markets through the allocation of customers among themselves could be illegal under the Sherman Act. Thus, efforts to reduce duplication of services and match the capacity of hospitals with expected demand, might be considered illegal as an unreasonable restriction of competition.

One of the key community level objectives of several types of multi-institutional arrangements, the rationalization of planning in order to overcome

the problems of duplication and excess capacity, may be vulnerable under this interpretation.

4. Multiple hospital system arrangements which represent a substantial portion of providers in a particular geographical area might be charged with conspiring to restrict the supply of hospital services in a non-competitive way or to be attempting to obtain monopoly power. Efforts to prevent outsiders from establishing themselves in the market could be viewed as violations of the Sherman Act.

In the Hospital Building Company v. Trustees of Rex Hospital case, the parties were said to be conspiring to control the bed supply, blocking relocation and expansion of a for-profit hospital, and were generally restraining the business of providing hospital services, all of this via blocking authorization under certificate-of-need procedures. It has been argued that this control of the market place is, of course, one of the purposes for which many multihospital systems are designed.[116] In addition, laid to rest in this case was the notion that hospitals are not involved in interstate commerce and thus are not liable under antitrust law.[117,118,119] Evidence of the purchase of supplies and medicine from out-of-state sellers, out-of-state patients, revenue from out-of-state insurance companies and federal governmental programs, management contract fees paid to an out-of-state based corporation, and expansion plans to be financed by out-of-state lenders led the U.S. Supreme Court to rule that interstate commerce was indeed involved.

In a recent action, a federal district court in Detroit dismissed an antitrust suit brought by a Michigan corporation which had been denied a certificate-of-need to build a new hospital (Huron Valley Hospital, Inc. v. City of Pontiac).[120,121] Shortly htereafter, an existing hospital received approval to replace its facility, leading Huron Valley to charge that there existed a conspiracy to restrain market entry. In dismissing the case, the judge concluded that Congress intended to grant health systems agencies exemption from antitrust laws. However, this case, now under appeal, does not address the scope of such exemption, thus its possible application to private planning by hospital and hospital systems is unclear.

The potential fro suit or prosecution, and the attendant costs, may serve as a barrier to multi-institutional systems. Court action may be initiated by regulatory agencies or by other providers who see their interests adversely affected by the growth and development of systems. Further, the antitrust laws are not neutral to organizational forms. That is, multiple hospital systems with separate ownership and centralized management control appear more vulnerable

to legal challenge than systems with decentralized management control; and hospital systems in geographic proximity are more vulnerable than are systems which are geographically dispersed.[122]

Antitrust law is premised on the notion that competition in inherently good and monopolistic behavior is inherently bad. This dichotomy avoids the issue of whether competition in the health field, given its market imperfection, better serves the public interest than does cooperative behavior.

The matter of the public interest is perhaps the issue around which the planning/antitrust contradiction will be resolved. The test may well be whether organizational integrations unreasonably restrain trade. The questions involved relate to the effects on the public interest of restricting competition, whether integration yields results favorable to the public interest, and whether the public benefits of consolidation exceed the costs of restricting competition.

FEDERAL TAX LAWS

Federal tax laws have served to penalize certain types of multi-institutional arrangements by taxing income. For the most part, the laws constrain shared services among organizations retaining separate ownership. The tax consequences of establishing shared services organizations have been analyzed by Bromberg[123,124] and recently were summarized as follows:[125]

1. There are restrictions on the types of services eligible for sharing. A shared service organization established as a 501(e) organization both tax exempt and eligible for tax deductible donations-is limited to providing certain enumerated services, of which laundry services has been clearly omitted.

However, a U.S. District Court recently ruled that a centralized laundry, operated by six nonprofit hospitals, could not be denied tax exempt status.[126] The Court concluded that although laundry services were not listed in Section 501(e), the intent was to expand, not limit, cooperative services. Further, the Court ruled that the joint laundry did not lose charitable status simply because it offered services provided by commercial organizations. Finally, shared laundry services which were viewed as essential, realizing no profit and operating exclusively for the benefit of tax exempt hospitals, could not reasonably be defined as unrelated trade or business. This ruling, if upheld upon appeal, would remove one of the barriers to shared services.

2. There are also restrictions on the membership of shared services organizations. Shared service organizations established under 501(e) can provide services only to governmental hospitals and to other nonprofit organizations established under 501(c)(3). Thus, investor-owned hospitals and tax exempt nursing homes could not receive services from a Section 501(e) organization. A shared service organization established under 501(c)(3) may provide services to for-profit hospitals only to the extent that these remain an insubstantial part of the overall activities of the organization.
3. The payout or allocation requirements of Section 501(e) and Subchapter T (Non-Exempt Cooperative) shared services organizations can lead to capital problems for the shared services organization and/or liquidity problems for the hospitals.

While these cooperatives can render services to nonmember organizations and are free of restrictions on the kinds of services provided, they must pay out or allocate all net earnings to avoid corporate taxation, thus leading to adverse reimbursement consequences and limiting the accumulation of cash reserves.

4. Shared service organizations established under 501(c)(3) have no such payout requirements, do not limit type of service to be shared, and are eligible for tax deductible donations. This type of status allows the organization to maintain the cash flow necessary to build up capital reserves. The major difficulty arises in obtaining such status. The Internal Revenue Service has taken the position that a shared service organization cannot quality under this section unless it qualifies under the provision of Section 501(e). While the federal courts have held against this overly restrictive interpretation, hospitals seeking this status are nevertheless required to work through the courts--a time consuming and costly effort.
5. The tax treatment of "unrelated business taxable income" earned by one hospital selling services to another hospital or health care provider limits the desirability of this kind of shared service arrangement. Although the "economies of scale" argument can be made for many direct sales arrangements, services cannot be sold to nonhospitals or to hospitals with more that 100 beds, at a rate in excess of cost, unless the hospital selling the services is willing to pay income tax on the proceeds. Moreover, the services can only be sold to tax exempt and governmental hospitals.

Overall, restrictions on tax exempt status, types of services and hospitals eligible for sharing, payout provisions, and the taxability of specific categories of income, serve as barriers to the development of shared services, thereby limiting the ability to accrue the benefits associated with such cooperative activities. The Internal Revenue Code and IRS do not prevent shared services arrangements per se, but rather they pose obstacles which appear inconsistent with the mandate of P.L. 93-641.

REIMBURSEMENT

Existing reimbursement mechanisms fail to provide incentives for and often serve as constraints upon the growth and development of multi-institutional arrangements. Reimbursement consequences are perhaps greatest in the areas of accumulation of capital and reimbursement for operating expenses.

CAPITAL REQUIREMENTS

Organizations need an inflow of funds corresponding to total financial requirements, i.e., current operating needs plus capital requirements. Capital needs of hospitals include working capital and plant capital to replace existing facilities and equipment and to add new technology. The development and expansion of multi-unit organizations often necessitate significant funds to finance their activities.[127] For instance, when two or more physically deteriorated and/or financially troubled hospitals merge, capital for a new facility may be necessary. Shared service organizations, set up as separate corporations, often require start-up and expansion capital.

The Medicare reimbursement formula, however, does not allow a contribution to capital for nonprofit hospitals. Such hospitals have moved toward greater use of debt financing as philanthropy as a source of capital funds has declined and the base of charge-paying patients has decreased.[128] Since nonprofit multi-hospital systems operate in the same environment, these systems must face a choice between a high debt position and restrictions on growth potential. Particularly affected are those institutions with high percentage Medicare/Medicaid business which may recognize the need for integration with other organizations, but may be unable to generate the start-up capital necessary for any number of forms of consolidation.

For-profit hospitals clearly are favored in Medicare reimbursement as they receive a source of capital unavailable to not-for-profit hospitals. That is, for-profit or investor-owned hospitals are allowed a return on equity, at least

a portion of which generally is retained to meet capital needs.[129] In addition, the ability to sell stock offers yet another source of capital.

There are indications that some of the existing disincentives in Medicare reimbursement regualtion may be removed. For example, the Health Care Financing Administration recently proposed to reimburse hospitals at the billed charge for services obtained from a related shared services organization if the charges do not exceed the market price for comparable services.[130] This will enable shared services organizations to accumulate some of the capital necessary for working capital needs and growth. Such reimbursement is currently based on costs and capital must be accumulated strictly from patients and third parties paying on the basis of charges. However, a more stringent definition of related organization may serve to offset the removal of the disincentive.

Several suggestions have been made for improvements in the area of capital requirements. For example, it has been argued that multi-institutional systems offer potential advantages in capital formation, accumulation, and allocation.[131,132] Systems could be allowed to pool depreciation funds among member hospitals, to be used to support needed renovation, construction, or equipment. Such an arrangement would provide flexibility in allocating resources within a system, supporting services among the units of funding new and diversified services needed medically and geographically.

Intrasystem borrowing or lending might be used to render the need for and higher cost of external financing. Such internal cross subsidization would aid overall system financial stability. Interest expenses for intrasystem borrowing is not now an allowable cost (except in religious order systems), ye thte cost of borrowing is allowed if provided through an external organization, often at higher interest rates.[133]

In summary, it would appear that a number of modifications in reimbursement policy related to capital requirements could serve to remove disincentives, add positive incentives, and aid multi-institutional systems to achieve their potential.

OPERATING EXPENSES

There are several areas where multiple hospital systems are adversely affected by reimbursement for operating expenses. An example is the "pay out provision" for shared services organizations established under 501(e), requiring that such organizations distribute the net earnings to their patrons.[134] Since these organizations require capital of their own, the distribution of earnings often

is in the form of scrip, thus providing no cash to the hospital. Medicare reimbursement regulations treat this scrip as an offset to the allowable costs of the purchased services, potentially decreasing the hospital's liquidity position.

Another area is Medicare's limiting its liability to hospital routine service costs according to a particular hospital's relationship to a "peer group" determined by hospital bed size and location.[135] Hospitals above the 80th percentile of their peer group are reimbursed at the 80th percentile. A single hospital within a multiple hospital system may offer a more sophisticated set of services and treat a more complex case mix than independent hospitals of the same size by virtue of its ties with other hospitals in the system. Consequently, a hospital in a multiple hospital system may lie at the high end of the distribution and be penalized because of its shared clinical services arrangements.

A number of other reimbursement issues are problematic for multi-institutional systems. Within Catholic systems, lay equivalent salaries are reimbursable only if incurred in individual facilities, and are not allowable if incurred in the corporate office.[136] Medicare requirements to file individual hospital balance sheets ignore those systems which have consolidated assets into a single organization with a combined balance sheet.[137] Further, Medicare has discouraged the development of self-insurance plans by limiting or denying reimbursement of expenses under such plans. This is particularly damaging to multihospital systems which have led in developing such plans and have large insured populations over which to spread the risk.[138] Self-insurance programs developed by multihospital systems have been reported to result in reduced malpractice insurance outlays, with rates substantially lower on a per bed basis than charges from commercial carriers for the same coverage.[139]

For purposes of reimbursement it has been suggested that systems might be treated as combined entities, rather than individual institutions, thus allowing internal reallocation of reimbursement dollars within the system.[140] Provider certification rules under Medicare, however, allow for an entity with multiple components to be treated as a single provider only under certain conditions. The organizations involved must: (a) be subject to the control and direction of one governing body; (b) have a single chief medical officer who reports to the governing body and is responsible for all medical staff activities in all components; (c) show total integration of the medical staff by credentialing them without limitation to all components, and by having committees responsible for specific

areas of concern in all components of the hospital; and (d) have a single chief executive officer to whom all administrative authority flows and who can exercise administrative control over all components.[141] While the virtues of internal reallocation may be debated, the current regulations serve to encourage certain kinds of organizational consolidations but is not responsive to alternative structures.

Current capital and operating reimbursement policies constrain the growth and development of multi-institutional systems and thus impede their ability to achieve the potential benefits.

ORGANIZATIONAL CONSTRAINTS

In addition to environmental factors, there are forces operating within institutions and their communities which may serve as barriers to the growth and development of interinstitutional arrangements. Among these are concerns related to loss of institutional identity and autonomy, fear of domination, uncertainty as to role changes, and imbalances in power which may lead to inequities in resource allocation.

At the outset, it should be recognized that the movement toward multi-hospital systems suggests a change in values. Historically, hospitals have competed for resources, for patients, and for physicians. Pressure to shift from competition and autonomy to a mode marked by cooperation, sharing, and joint activity is indeed a new direction and represents a different value set.[142] In addition, an underlying assumption in this process is that the key actors will act rationally, will be willing to place community welfare above institutional concerns, and can convince other key actors in the organizational power structure to do the same.[143]

These organizational and community factors undoubtedly have influenced the rate of growth of multi-institutional systems, the strategies employed to market such systems, and the organizational forms that systems have adopted. For example, in describing the recently developed Maryland Health Care System, McDaniel emphasizes the need to preserve the relative independence of member institutions.[144] In attempting to gain the requisite support of trustees, physicians, and managers, the arguments used for cooperation focused on the notion that voluntary association among independent entities would serve to strengthen each members' position in its own community by expanding its expertise and its capability to deal with the various sociological, professional, technological,

economic, and political pressures. In the formation of this sytem, hospitals were sought as members if their services would be complementary rather than duplicative, thereby identifying noncompetitive markets. The development of particular kinds of organizational forms, such as consortia and management contracts are, in large part, mechanisms designed to overcome concerns over autonomy and control while pursuing the advantages of consolidations.[145,146]

Trustee concerns regarding the status and authority of the local board within a multi-institutional system, relationship of the local board to the corporate board, changing roles and responsibilities of trustees, and potential loss of status and prestige are among the issues raised in the development of systems.[147,148] Overall, it is clear that trustee reaction to participation in multi-organizational systems, and the attendant fears and doubts, is a powerful force and a potential barrier.

Physician response also may serve as an inhibiting force to interorganizational activity. Questions regarding staff privileges, relationships with physicians in other hospitals in the system, proposed peer review activities, implications for existing clinical and financial arrangements with the local hospital, impact on practice patterns and patient referral networks, and effect on status in the professional community represent some of the areas of physician concern.[149,150]

In addition to trustees and physicians, hospital managers may be a source of opposition to interorganizational arrangements. Concern over job status and security, and a view that integrative efforts may reflect negatively on administrative performance have been cited as barriers to system development.[151] In addition, managers may share with trustees and physicians the apprehension over loss of local control and autonomy.

The concerns of trustees, physicians, administrators, along with those of other personnel within the institutions involved, represent a nontrivial problem. The trauma involved in organizational consolidation, and the impact on achieving the benefits of interinstitutional arrangements was highlighted by the Cooney and Alexander study.[152] Attention has been drawn to the process by which such arrangements evolve and to the importance of understanding and dealing with the behavioral implications of integration.[153,154] The need for clarification of roles and expectations, and for explicit discussion of the organizational transition have been identified as essential to overcoming barriers to system development.[155,156]

Thus, there is a set of organizational constraints, revolving about issues of values, attitudes, and roles, which should be recognized and addressed as we seek to secure the benefits of interorganizational arrangements.

OPPORTUNITIES FOR FURTHER DEVELOPMENT

In the preceding section, it was noted that a number of barriers exist which serve to constrain the achievement of the promise of multi-institutional arrangements. Beyond these barriers, however, there are several areas which multi-institutional systems themselves may explore in an effort to more fully realize their potential.

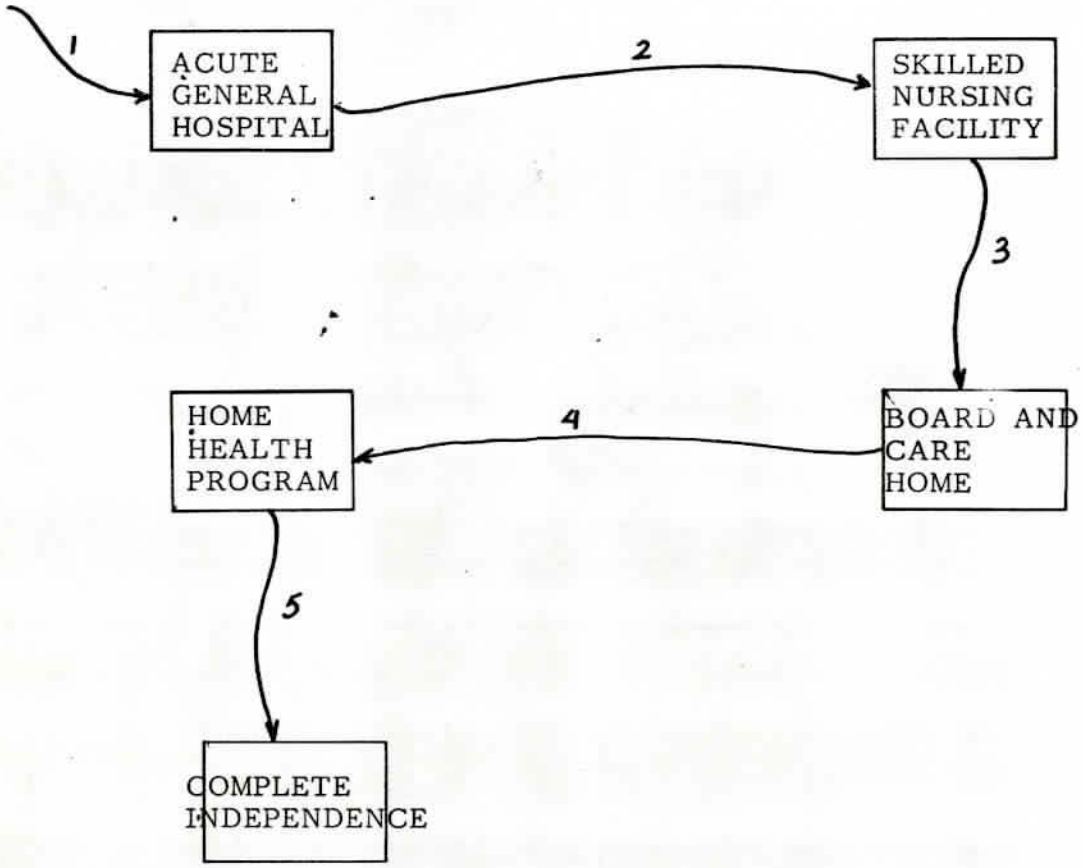
HORIZONTAL AND VERTICAL INTEGRATION

The literature on multi-institutional systems generally characertizes the forms of organizational integration as either horizontal or vertical.[157,158] Horizontal integration refers to the linkage of similar organizations which are at the same stage of the production process, exemplified by aggregations among and between hospitals. Vertical integration refers to linkages of organizations at immediately related stages of the production and distribution process, which may be illustrated by aggregations of hospitals withnursing homes, ambulatory centers, and health maintenance organizations.[159]

It has been noted that many of the existing integrative arrangements are horizontal in nature, linking hospitals to other hospitals within corporately structured management systems, designed to secure economic benefits and to confront external pressures.[160] These horizontally integrated systems, which may be georgraphically proximate or dispersed, are seen as advantageous at the institutional level in acquiring critical resources and in coping with managerial and financial deficiencies. Community level benefits achieved thus far have tended to concentrate around hospital oriented services.

Vertigally integratedsystems are those which meet total institutional health needs of the community. For example, sucha system might include an acute general hospital, a skilled nursing facility, a board and care home, and finally a home health program. The patient who enters the system at the hospital emergency room with a heart attack, will, as recovery progresses, move to facilities providing steadily decreasing levels of care at corresponding cost reductions.

The process is illustrated by the chart following:



Vertically integrated multi-institutional systems, however, may offer potential which includes not only institutional advantages but also moves extensively into community benefits. Connors, for example, argues that systems could be vehicles for fundamental changes in the delivery of health services.[161] He suggests that systems should be concerned with the development of coordinated, comprehensive plans of services for their communities, plans which would include various types and levels of care and which would involve linkages with other providers and agencies. Farley contends that systems are

in a unique position to use their capabilities to alter the mechanisms for delivery of care to achieve what have been defined here as community as well as institutional benefits.[162] Toomey also claims that vertically integrated systems are important to secure community level benefits. He describes the Greenville system as one moving from a comprehensive institutionally focused system toward provision of medical care services in the context of community oriented programs, extending into homes, offices, and industry, and including personal, community, and institutional services along with medical and health education programs.[163,164]

These views suggest a broad perspective as to the future role of multi-hospital systems. Implicit in this formulation is the notion that clinical as well as management services be integrated and that linkages with other health, social, and educational agencies be established. Such efforts could lead, as Sigmond has pointed out, to increased responsibilities for systems in the context of health delivery for a geographically defined population.[165]

Thus, vertical integration may offer opportunities for systems to provide greater access to and availability of services and manpower, along with increases in comprehensiveness and continuity of care. Further, by including alternatives to hospital care, such systems could serve to reduce excess hospital capacity and to influence costs of care to the population served. For the most part, however, strategies to develop vertically integrated systems have not been widely demonstrated. The challenge, as Stull sees it, is how to move the enlightened self-interest and creative entrepreneurship which has marked the development of most systems toward an orientation focusing on vertical as well as horizontal integration.[166]

ACADEMIC HEALTH CENTERS

As discussed above, one of the perceived benefits of multi-institutional arrangements is the recruitment and retention of clinical manpower. One could argue that this benefit might be more easily attained were there closer interrelationships between multi-institutional systems, which have evolved largely around consolidation for delivery of services, and academic health centers, whose primary focus lies in the production and distribution of health manpower.

To date, there is relatively little evidence of systems working in conjunction with academic health centers. Levitan has noted that joint effort may be precluded by differences in mission.[167] The primary objectives of academic health centers are education and research, with service of interest to the extent that it supports the educational mission. Further, teaching hospitals may be

large enough already to take advantage of economies of scale, and it is not clear that yet larger scale would lead to greater benefit clinically, organizationally, or politically. On the other hand, linkages between systems and academic centers could be mutually advantageous. The academic center may benefit through programs for students, interns, and residents at community hospitals, educational opportunities for faculty at affiliated hospitals, and from availability of the management capability of the multihospital systems.[168,169] Systems may benefit from access to a variety of clinical manpower resources to serve their populations and from continuing education programs for local physicians.[170] In turn, communities can benefit from greater access to and availability of highly trained clinical manpower. The mechanisms to achieve integration may, in some instances, involve coordination between academic health centers and multihospital systems. In other instances, the academic centers may attempt to create their own systems. A case in point is the Rush-Presbyterian-St. Luke's network.[171,172] This system serves over one and one-half million people in both urban and rural areas as well as producing and distributing physicians and other health manpower. The network offers various practice experiences in different settings to students, thus using network institutions for training purposes while serving as a source of needed manpower to these institutions. Plans for the system include development of continuing professional education programs, ambulatory care programs, shared services, and management contract arrangements.

In a project recently funded by the W. K. Kellogg Foundation, Boston University Hospitals seeks to develop management contracts with community hospitals and ambulatory care centers in the Boston area and to demonstrate the role of an academic health center in developing a comprehensive, vertically integrated system.[173] It is hoped that one result will be a teaching network for the medical center, involving strong educational relationships with those hospitals managed by contract. It is anticipated that clinical and professional services, based at Boston University Hospital, will be shared and certain specialized tertiary care services will be decentralized to the managed facilities.

To some extent, the growth of systems represents entry into areas historically the sole domain of academic centers, thus there is potential for a competitive posture.[174] There may be difficulties in terms of conflicting objectives, differing governance and medical staff structures, and differences in financing

mechanisms. On balance, however, the benefits to the community and to the organizations involved would appear to outweigh the risks. Warden has concluded that through such interrelationships, continuing education for professionals could improve, a greater diversity of clinical experiences for students could be provided through a broadened range of facilities, services, and patients, and new referral networks could be developed.[175] At the community level, such linkages could serve to rationalize the production and distribution of health manpower, provide a mechanism to regionalize services with different levels of care, and improve access to manpower resources and services. Thus, linkage between multi-institutional systems and academic health centers may well be a significant step in achieving the expected manpower benefits.

MANAGEMENT AND GOVERNANCE

In addition to coordination of the production and distribution of clinical health manpower, it is also necessary to assure that administrative manpower is adequate to enable the achievement of the benefits of multi-institutional arrangements. Indeed, the success of systems is premised heavily on strong management capabilities.[176,177,178]

The very notion of multi-institutional systems suggest cooperation, integration, and an orientation toward balancing the needs of individual organizations with those of the system. To a large extent, however, education and training have focused on preparing individuals to be managers in autonomous, freestanding facilities in which policy making occurs at the individual institutional level.[179] The movement toward integrated systems may mean significant changes in the role of the manager and in the organizational environment in which the manager works.

Future managers should be familiar with the various types of multi-institutional arrangements, the circumstances and conditions under which the alternative forms develop, the organizatonal dynamics of systems, and the likely impact of these arrangements. The very nature of multi-institutional systems would seem to indicate a need for emphasis not only on intraorganizational but on interorganizational theory and behavior as well. By definition, systems involve growing interaction among hospitals and between hospitals and other health agencies. Managers within these systems will increasingly be involved in interorganizational activities and processes.[180,181] Concern for and understanding of the external environment is further necessitated by increased regulatory control, consumer

demands, and greater accountability. As resource allocation decisions are further influenced by external forces, Brown notes that managers must be able to coalesce various interests within the organization in order to deal effectively with agencies outside the organization.[182] Thus, growing organizational interdependency, operating in a more complex technical and behavioral environment, may well mean new and expanded roles for managers and, as Shortell points out, "will require new ways of thinking about the management process in health services organizations."[183]

In addition to changes in the role of the generalist manager, the corporate structure of multi-institutional systems may require the development of management specialists in various functional areas. Such "functional specialists" would likely have training in health administration, but would concentrate in a functional area such as finance, operations research, marketing, planning, or human resources management. Individuals so trained could work in a staff capacity at the corporate level, combining specialized knowledge with an understanding of health care organizations. Further, career mobility to positions at the institutional level need not be precluded.

To meet the managerial requirements of multi-institutional systems, attention should not be focused solely on those preparing to enter the field. There is, in addition, the need to assure managerial competence on a continuing basis for those already located in multi-institutional organizations. A number of professional organizations, such as the American College of Hospital Administrators, the American Hospital Association, and the Hospital Financial Management Association, will likely bear major responsibility in this area. University based programs in health and hospital administration also could serve as a resource for the continuing education of system managers. Further, since the corporate level staffs of multi-institutional systems are often discipline or functionally trained, the university based programs could assist in providing broadly based educational programs to orient these managers to the various facets of the health care industry. Several of the systems themselves are becoming active in continuing education for their management staffs. For example, through its Center for Health Studies, the Hospital Corporation of America is developing educational programs for hospital and corporate level management staff.[184] The focus in these programs is on financial management, human resources management, leadership, and management systems. There is also an advanced program in

multiple facilities management aimed at preparing individuals to move to regional or corporate management.

Thus, to assure continued managerial competence in an increasingly complex environment, various educational alternatives might be explored. These involve reconsideration of the role of the manager in the context of multi-institutional systems, the potential for functional specialists, and the need for continuing management education.

Along with the need for continuing management capability, securing the benefits of systems will require attention to the function of governance. Coyne, in his study, noted the critical importance of the governance function on the performance of hospitals in multi-institutional systems.[185] As systems continue to evolve, it is argued that trustees will have to focus on long-range planning and strategic decision making, while moving away from involvement in institutional operations.[186] The governance role in these emerging organizations requires individuals who can work as part and think in terms of systems.[187] Trustees will be charged to make difficult resource allocation decisions, attempting to balance the needs of the system with those of the individual facilities.[188] Trustees at the corporate level are encouraged to think in terms of the greatest good for the entire system. At the local level, trustees seek to protect their hospitals for their communities, while attempting to view their facilities within the context of a network of institutions.

As a part of a major organizational restructuring, the Sisters of Mercy Health Corporation is devoting substantial time and attention to the governance function.[189,190] Efforts are being made to enhance the capability of governance at the local level through changes in board composition, new educational programs, and by providing greater clarity as to roles and responsibilities. In addition, the linkage between local and corporate governance is being strengthened.

Improving the capability of the governance function is a crucial task as systems seek to achieve their potential. Education for trustees in multi-institutional settings is taking on new importance, and programs must be designed to assure adequate understanding of the changing, challenging environment in which trustees will be working.

SUMMARY AND CONCLUSIONS

The evidence to date indicates clearly that the hospital industry is evolving from a set of rather independent facilities to a mode of highly interdependent,

multi-institutional organizations. These emerging organizations, which have assumed a variety of forms, offer substantial promise to their communities and to the institutions themselves in terms of economic, manpower, and organizational benefits. The achievement of these benefits has, to some extent, been constrained by a number of environmental and organizational barriers. In addition, there are important areas of activity yet to be explored by the systems in order to more fully realize their potential.

Over time, it is expected that there will be continued development and growth of multi-institutional systems. Pluralism will likely continue to characterize the ownership, financing, and operating approaches of systems. However, as external pressures mount to control costs and reduce capacity, the predominant patterns may be those which include ownership obligations and tighter management arrangements. It seems quite possible that organizations gradually will move toward more pervasive types of consolidations. Indeed, arrangements such as shared services and consortia may serve to create an environment within which organizations begin to develop more far-reaching and extensive degrees of integration.

As systems grow, it is likely that we shall witness continued interaction and cooperative activity among these organizations, evidence of which is already beginning to accumulate. Yet, at the same time, there will be increased competition among and between systems. Indication of competition between investor-owend and not-for-profit systems already is being evidenced. In addition, as nonprofit systems continue to expand, there may arise intersystem competition for manpower resources, new markets, access to capital, and technology.

Continuing consolidation and organizational integration will bring greater concentration of economic and political power. While this concentration holds great promise, there are probably limits to the degree of concentraion appropriate to the public interest. This means constant vigilance to balance the needs of multi-institutional systems with those of the communities and people served. Thoughtful observers of the multihospital movement have raised a number of public policy questions in this regard.[191,192] They ask if systems will be responsive to community needs, if access to care can be balanced against the need to reduce capacity, if cost savings will be passed on to consumers, if community demands can be reconciled with system needs, and if the desire for organizational growth and new technology will conflict with efforts for planning and cost control.

These issues bring us full circle. We have described a range of organizational arrangements, emanating largely from within the hospital industry, designed to deal with the very public policy questions raised. We have seen that these arrangements hold substantial promise to the communities served as well as to the organizations themselves. We have seen that while some of the promise has been fulfilled, there remains much to be done. It has been shown that constraints such as antitrust, tax law, reimbursement policies, and organizational barriers have served to preclude the relaization of the potential of multi-institutional systems. It has also been noted that there are avenues yet to be pursued by the systems themselves. These interorganizational arrangements represent not only a reconfiguration of the hospital industry, but further suggest that systems may assume new roles and broadened responsibilities. To meet these responsibilities, and to fulfill these roles, systems may move toward greater clinical as well as management integration, and develop stronger interrelationships with those organizations involved with the production and distribution of clinical and administrative manpower. As this process evolves, it is essential that adequate evaluation be undertaken to demonstrate clearly the nature of the relationship between the promise and the performance of multi-institutional systems.

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