The Private Management of Public Hospitals

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Since the public sector traditionally has provided the public goods viewed as unprofitable by the private sector, the growing trend to manage public hospitals under outside private contract raises some fundamental issues of concern. It is hypothesized here that the system maintenance and output goals of privately managed public hospitals become increasingly similar to those of investor-owned hospitals. The thesis is empirically tested using documented effects of private contract management on the operative goals of short-term, general hospitals owned by local governmental bodies. Traditionally managed public hospitals matched with the study hospitals on important characteristics serve as the control group. Costs do appear to be reduced under private contract management, but the service structure becomes somewhat altered. It is the task of public health policymakers to reconcile the cost-control and efficiency mechanisms brought about by private management with the community's right of access to comprehensive medical care. Carefully structured regionalization plans — a possible means of providing both — will require the stimulation of more government involvement during an era of cutbacks.

INTRODUCTION

One of the most important changes in the American health care delivery system in the past decade has been the growth of multi-institutional arrangements among hospitals. A variety of organizational arrangements have emerged; a partial list includes shared services among independent hospitals, horizontally integrated hospital chains under single ownership, vertically integrated conglomerations of different types of services under single ownership, and management contracts between hospitals and providers of management services. This latter

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multi-institutional form is especially noteworthy because it includes an intriguing development with important administrative and public policy implications: the private management of public hospitals.

A hospital management contract is defined [1(1980)] as:

> . . . a formal agreement in which a hospital or other organization contracts with the governing board of a hospital to assume the responsibility for general management of that hospital. This managing organization . . . appoints the administrator and has overall day-to-day management authority and responsibility for the managed hospital, subject only to the direction of the governing board. Subject to the terms of the contract and local law, the managed hospital may retain total legal responsibility and ownership of the facility and its assets and liabilities.

Besides private, investor-owned firms, management services are available from autonomous hospitals, nonprofit multihospital systems, hospital associations, and nonprofit firms specializing in management contracts. It is, however, the management of publicly owned hospitals by private, profit-making firms that has raised serious questions regarding the proper roles of public and private enterprise in the medical care system.

The concern of some observers may have been exacerbated by the rapid growth of management contracts during the past decade. Management contracts with for-profit hospitals increased 44 percent from 1979 to 1981 [2]. A recent survey revealed that about 150 governmentally owned facilities are managed by investor-owned companies [3]. While many of the public hospitals under management contract are small and located in relatively rural areas with little competition, in 1980, Hyatt Medical Enterprises, Inc. contracted to provide management to Cook County Hospital, a 1,400-bed hospital in Chicago, Illinois. Clearly, contract management is a rapidly growing innovation, and the acceptance of private management by Cook County Hospital may signal an era of increasing private management of publicly owned urban hospitals. Undoubtedly, the care provided to millions of Americans will be affected.

This article, then, has a twofold purpose: first, to discuss some of the fundamental issues of concern to organizational researchers and health policy analysts as they observe the growing trend toward private management of public hospitals and, second, to propose and empirically test hypotheses regarding the impact of private contract management on the operative goals of public hospitals.

We contend here that two circumstances account fundamentally for the heightened attention and anxiety generated by this trend. First, the private management of public hospitals represents a reversal of the

traditional business-government relationship; whereas public policy-makers have long accepted the necessity of government intervention when private market mechanisms fail, the notion that private interest might systematically be used to benefit public enterprise is new and unsettling. Second, and perhaps more important—the proprietary and public sectors have historically assumed different roles in the delivery of medical care. The public sector traditionally has attempted to make up for the market failures created by the private sector. For the most part, this has consisted of providing services viewed by the private sector as unprofitable, but also perceived to be public goods. The application of private sector managerial techniques and incentives to public hospitals is viewed by many as a threat to the poor and disenfranchised members of society—those for whom public hospitals traditionally have provided care. The paucity of substantive knowledge regarding the impact of private management on various dimensions of public hospital performance, however, has greatly hindered rational discussion of this issue.

THE DISTINCTION BETWEEN PRIVATE AND PUBLIC HOSPITALS

It might be argued that today's complex world makes it futile to try to distinguish between public and private organizations. Certainly many corporations organized for profit do a considerable amount of *pro bono* work and are open to a reasonable amount of public scrutiny. Similarly, government agencies often are contractually linked to private enterprises in joint efforts to achieve some goal. In a sense, the private corporations are extensions of the public agency. Nevertheless, while acknowledging the difficulty of classifying all organizations into a simple public/private dichotomy, it remains possible and useful to distinguish conceptually between public and private enterprises. Morton Grodzins, as reported by Peabody and Rourke [4], clarified this distinction:

> The manufacturer of steel who has important governmental contracts, for example, may convince both himself and others that his first concern is national defense. In some larger sense, especially during crises which threaten the fate of the nation, the public concern of the industrialist can be taken at its face value. Nevertheless, for most of the group in noncrisis periods (and for some even in crisis) private ends have primacy. Profits, dividends to stockholders, and responsibilities to employers are paramount values. Similarly, officers of the Department of Defense have

> many obligations to the private sector of the economy. Their programs are carried out with the advice of business advisory groups, and they must always be sensitive, for economic as well as political reasons, to the need for balancing defense purchases among large and small businesses and among the various regions of the nation. But their primary business is the public business of maintaining the nation's armed strength.

This way of distinguishing among types of organizations is very similar to Blau and Scott's criterion [5] for differentiating organizations: *cui bono*, or "who benefits?" While the complexity of hospitals and the fact that complex organizations benefit many different groups must be acknowledged, the *cui bono* criterion is nevertheless useful in distinguishing between private and public hospitals. For the purposes of this discussion, private hospitals will be defined as hospitals owned and operated for the purpose of making a profit for their owners (also referred to in the literature as proprietary and investor-owned hospitals). In 1980, there were 727 private hospitals in the United States, representing 12 percent of all hospitals. Public hospitals are of two major types: federal hospitals, such as those within the Veterans Administration and the Public Health Service, and public-general hospitals owned by state, city, and county governments. (It should be noted that there is a third major category of hospitals in the United States, voluntary hospitals, which are private, nonprofit hospitals partially supported by voluntary contributions). Our concern in this article is solely with short-term, general hospitals owned by local governmental bodies, and the use of the term "public hospital" throughout shall be restricted to this group. These hospitals total 1,785, or 31 percent of all hospitals in the United States. Even within this group, however, a great deal of diversity exists. A useful typology was recently suggested by the Commission on Public-General Hospitals of the Hospital Research and Educational Trust [6]. The four categories which make up the typology are (1) urban public hospitals, (2) other metropolitan area public hospitals, (3) rural public hospitals, and (4) university public hospitals.

About 90 urban public hospitals are located within one or another of the 100 largest U.S. cities. They are owned by city, county, or joint city-county governments, or by district authorities created for the purpose of operating hospitals. Many are administered as local government agencies, with administrative services and policy direction from central government sources. Urban public hospitals are often engaged in training large numbers of health professionals, with staffs often composed of full-time attending physicians who, with medical residents, provide physician services.

Another 350 public hospitals are located in suburbs or cities other than the 100 largest. Although these hospitals are owned by local government, they function much like private community hospitals; their governing boards and administrative structure are likely not to be a formal part of the governmental structure. The medical staff typically is composed of private practitioners with attending privileges. Medical training is done only in a few of these hospitals.

The approximately 1,400 rural public hospitals, which represent the vast majority of hospitals in the public sector, typically serve as the community hospital for all area residents and, in many areas, provide the only hospital services. Most rural hospitals are small and provide only basic medical, surgical, and emergency care. They are owned by state, county, or district authorities, and many are administered as government agencies. They are staffed by private practitioners with admitting privileges and do little graduate medical training.

Finally, there are 45 university-affiliated public hospitals, most of them located in large cities. They have strong education and research commitments and, as a result, generally provide a wide range of services, including highly complex and expensive procedures. University public hospitals are staffed by full-time physicians with faculty appointments in medical schools. They are typically owned by state governments and administered as part of the university.

HISTORICAL ROLES OF PUBLIC AND PRIVATE HOSPITALS

To give proper emphasis to the historical antecedents for the concern over private management of public hospitals, it will be worthwhile to review the historical development of public and private hospitals and their resultant differing contemporary roles. Originally a custodial care institution, the public hospital evolved from the late 1700s practice of providing food and shelter for the poor in so-called poorhouses or almshouses established by city or local governments. Medical care was a secondary function, with the sick cared for in an infirmary that was a part of the poorhouse and residents of the poorhouse used as help [7]. At the same time, charitable organizations set up hospitals and dispensaries to provide medical care (inpatient and outpatient, respectively) only to "deserving poor." "Deserving poor" was a label attached to the working poor and the poor who, through no fault of their own, were unable to pay for medical care. Ironically, although the deserving poor

had access to hospitals, institutional care was not the treatment of choice given the level of medical expertise available to practitioners in the eighteenth century. Individuals who could afford to do so preferred to be cared for at home. Thus, from the beginning, medical care was provided differentially, according to social status [8].

In the late 1800s, as medical expertise and technology were becoming more effective and specialized, infirmaries began to separate from poorhouses. Concurrently, the needs of the medical profession to house their new technological instruments and the depression of the 1890s led to a symbiotic relationship between physicians and particularly the voluntary, charitable hospitals. In return for the hospital providing a repository for their new technology, physicians would provide the hospital with patients who could pay for at least a portion of their care.

Public hospitals, however, were finding it increasingly difficult to compete with voluntary and private hospitals as the cost of providing care increased. As local governments became increasingly reluctant to bear the full burden of these expenditures, public hospitals began to use means tests to identify patients who were eligible for care, thus limiting their patients to the indigent. As late as 1936, public hospitals were, by law, unable to serve the paying public. In a ruling by a California appellate court, it was decided that local governments could not "engage in private business or enterprise." In 1933, the Los Angeles County Medical Association effectively forced the closing of outpatient departments established by the county public health department, feeling it was an infringement on the livelihood of private physicians [8]. Thus, the private sector, which included the voluntary, not-for-profit hospitals, the proprietary hospitals (which until fairly recently were usually owned by a group of physicians), and the private fee-for-service doctors placed tremendous pressure on public hospitals by successfully restricting their access to self-paying patients and establishing public hospitals as the legitimate source of care for the poor. As the function of the hospital shifted from custodial to curative care, and as medical care became a valued commodity to be bought and sold, the division of medical care along social class lines was strengthened. Excluded from the private sector, the poor increasingly relied on the public hospitals.

The clientele of the public hospital was to become a residual category made up of (1) the working poor who earn too much money to qualify for assistance but too little to be eligible for third-party plans, (2) persons for whom insurance does not adequately cover outpatient or other types of services, (3) the unemployed and underemployed, (4) undocumented aliens, (5) Medicaid recipients who cannot obtain pri-

vate sector care, and (6) those with medical conditions and/or social characteristics which are considered undesirable by the private sector [8].

The complex medical and sociocultural problems of the poor strained a system that found itself at the mercy not only of local but of national political whims and policies [9]. Increasing awareness that the amount and quality of medical care received was largely a function of social class and income led Congress to enact the Medicare and Medicaid programs in the mid-1960s in an effort to bring the poor and the elderly into the mainstream of medical care. This, of course, assumed that the public hospitals and other public health agencies were somewhere outside the "mainstream." These financing mechanisms made it theoretically possible for the poor and elderly to purchase medical care from virtually any provider. Hence, the existing two-class system of care was acknowledged, and public hospitals were clearly identified as inferior to private and voluntary hospitals.

This bias is a result of several problems continuing to plague public hospitals: (1) the facilities are generally old, underequipped, and underfinanced [10]; (2) they have difficulty attracting physicians and staff [7]; (3) as a part of the local government structure on which they depend for financing, they are often mired in bureaucratic red tape [10]; (4) as health care costs have been rising dramatically, taxpayer willingness to underwrite the public hospital has been declining; and (5) the public hospital serves an essentially politically powerless constituency and is therefore itself without much political strength [8]. Finally, the low political, economic, and social status of the clientele tends to denigrate, by association, the status of the public hospital [10].

Urban and rural public hospitals not only share these problems, but each demographic type is susceptible to certain unique problems: (1) urban public hospitals are situated in high-cost areas with a concentration of low-income families and hence a declining tax base from which the public hospital obtains funds [9]; (2) utilization patterns are being altered as the community which the urban public hospital serves becomes more strongly ethnic with distinct ethnic attitudes toward health and illness [11]; and (3) urban public hospitals are frequently associated with teaching institutions which emphasize high-cost, fragmented specialty clinics [10]. Rural public hospitals (which account for the only inpatient services in one-third of the rural counties [8]) contend with (1) shortages of personnel and facilities, (2) widely dispersed constituencies with long travel times to obtain care, (3) insurance reimbursement schedules lower than those for the urban areas, and (4) the high unit costs of small hospital operations [12].

These problems and the associated biases exist despite the role of and the services provided by the public hospitals: (1) around 75 percent of all public hospitals are associated with medical schools, and over one-half of all practicing physicians receive some part of their training in a public hospital [7]; (2) the public hospitals are reported to provide a disproportionate share of ambulatory and primary outpatient care services, a very poorly reimbursed type of service [8]; (3) they furnish high-intensity specialized services, such as neonatal intensive care and burn care units that the private sector finds too costly [8]; and (4) they are frequently a major source of employment in areas with high unemployment [11].

Increasingly, however, it is the available revenue base with which the public hospital must work that threatens its viability. The public hospital must rely on allocations from local government to make up the difference between expenditures and any income generated from patient revenues [7]. This difference is often quite substantial. For example, the accounts receivable total for Highland Hospital in Alameda County, California in 1980 was $9.5 million [13], and Cook County, Illinois had an indebtedness of $46.8 million for the operation of Cook County Hospital, which has an operating budget of $200 million [3].

These are rather spectacular examples, but they do illustrate the financial difficulties faced by public hospitals which, because of the public they serve, do not have equal access to the third-party or out-of-pocket payments with which the private sector is financed. To fund the public hospital (as well as other government services), local county governments usually rely on property taxes, an increasingly unpopular form of taxation. For the large urban public hospital in particular, this becomes an acute issue with the decline of the tax base which ultimately subsidizes them.

Much public hospital revenue comes from Medicaid payments, but this form of government subsidy has proved to be not only grossly inadequate, but detrimental to the financing of public hospitals. Prior to Medicaid, counties were able to allocate most of their public health care dollars to municipal institutions. Since the passage of Medicaid, however, it has not been uncommon for county governments to spend over one-half of their health care dollars to subsidize private care facilities [8]. In New York, for example, before Medicaid, four of every five public health care dollars were spent in municipal institutions for care, yet in 1975, 53 percent went to voluntary and proprietary hospitals offset by public funds [14].

Another reason why Medicaid and Medicare have not resolved

the public hospital's financial plight lies partly in the fact that these reimbursement systems were set up in a way entirely foreign to the historical operations of public hospitals. These programs provided a stable and, at the time of their passage, reliable source of patient payment for the private sector. With the philosophy and tactics of aggressive billing procedures already in place, it was not difficult for them simply to append the new source of funding to the preexisting system. Public hospitals, on the other hand, were frequently not only unaccustomed to billing patients and dealing with the intricacies of third-party insurers, but they considered charging and billing for services somehow antithetical to their mandated role to provide care for anyone who sought it [15]. Nearly half of the $9.5 million in accounts receivable at Highland Hospital, for example, was for outstanding Medi-Cal claims [13].

THE INTRODUCTION OF CONTRACT MANAGEMENT TO PUBLIC HOSPITALS

Contract management is largely a post-Medicare/Medicaid phenomenon of the investor-owned hospital chains that grew dramatically when large sums of money became available in the medical care sector [16]. The recession in the 1970s meant that financing for growth, which required large capital investment, was no longer available. These companies turned to marketing their management expertise in order to maintain a revenue base and to continue using personnel and resources that were part of the corporations' preexisting structure. About 22 investor-owned corporations offer contract management services, with about 229 hospitals and 26,971 beds currently under such an arrangement. More public hospitals are under management contracts than any other kind of hospital. In 1982, 104 public hospitals, with 11,041 beds, were managed by investor-owned firms [17].

The basic organizing format provides the contracting company with the day-to-day management and administrative responsibilities for the hospital, assigning an administrator and perhaps a controller; the hospital board, however, maintains full control and influence on major policy decisions.

Companies that sell contract management services promote themselves by asserting that they (1) can provide modern management and administrative expertise unavailable or inaccessible in the public sector by being able to bypass the otherwise unattractive pay scales and incentive systems of the civil service, and to draw on the skills of a team; (2)

can buy or contract for equipment, supplies, personnel, and services through bulk purchasing and sharing of expenses with other hospitals; and (3) can improve the financial status of the hospital through more aggressive billing of third-party payers and through imposing charges for the use of the public facility [16,10].

These claims hold a definite appeal to county government officials. They can remove themselves from the worrisome details of administrating an increasingly burdensome and beleaguered public institution. And the current mystique surrounding the potential of "private enterprise" and "competitive market mechanisms" to solve the problems of the public sector bears a strong influence as well. There is, however, a paucity of information on the impact that contract management actually has on the operation of public hospitals. This is due in part to the competitiveness between contracting companies—and perhaps to the reluctance of local government officials to evaluate publicly their decision to select a given contractor—and, by implication, to "go public" with an assessment of their hospital's effectiveness and problem areas.

What is apparent is that no consensus has been reached on the effectiveness of contract management from the bits and pieces available. Examination of case studies of successful and unsuccessful efforts at contract management suggests that much depends on (1) the motivations and expectations of the county government; (2) the size, existing political environment, physical structure, and patient mix of the hospital involved; (3) what the contracting company offers as goals and terms; and (4) the size of the company.

Some observers may argue that the retention of oversight and policymaking authority by local governments makes it unlikely that contract management will result in changes in hospital operations at the expense of public welfare. This is too simplistic a view of interorganizational dynamics. Several legitimate concerns merit attention with regard to the impact of contract management on the performance of public hospitals. One source of major concern, for example, is that the contracting company will contract for management and then, bargaining from strength, offer to "buy" the financially debilitated institution. One multi-institutional system has purchased at least 22 county- and/or city-owned public hospitals. In many cases, the public hospital acquired was the only source of health care in the area [3].

A second major concern is that the cost of contracting uses up funds that could be spent delivering services. Charges for services, more aggressive billing, and better accounting systems are processes of "efficiency" used by contracting companies [15]. Yet it is not clear that

the hospital's net revenue under contract management becomes higher after deducting the cost of the additional required collection effort and the cost of the contract itself.

A third concern with private management is that the emphasis on billing "carries with it the problem of winning the battle and losing the war if the process acts to drive away the needy clients whose servicing is the very purpose of the agency" [15]; see also [12].

Finally, some see the private management of public hospitals as a decision-making structure imposed upon the hospital and (perhaps) unresponsive to community wishes and needs. It is feared that with private management the ability of local residents to effect change in the hospital, or to resist it, will be diluted—and that the power of the management staff will be linked too directly to its ability to run the organization efficiently. In operational terms, the concerns are that services may be provided with greater dispatch but with less concern for the general welfare and well-being of the patient and his family; that costly services which are not reimbursed fully by patients or third-party payers may be simply eliminated; and that prices will be increased unreasonably to ensure financial viability. Hence, among the proponents of public hospitals, the prospect of private management conjures up visions of highly valued but costly services, such as obstetrical, emergency, cardiac, and burn care units being dropped entirely or "shared" with another facility under a regionalization program.

It is to this final point of concern—that the incentives inherent in the private sector encourage privately managed public hospitals to emphasize high-return services, such as surgery and laboratory testing, and to deemphasize other costly but equally important aspects of hospital care, such as obstetrics, intensive care, and social work services—that our data analysis is directed. As Rushing [18] notes:

> There is reason to believe that profit and non-profit (public and voluntary) hospitals differ in at least two respects. First, economic criteria per se are more important in decision making in profit hospitals. Second, more criteria are apt to influence decision making in non-profit hospitals. It is anticipated that these differences will make a difference in the way the hospital operates as a system. (p. 477)

Another way of stating Rushing's point is that the operative goals of private and public hospitals differ. In the context of contract management, the issue is whether, over time, the operative goals of privately managed public hospitals become more like those found in investor-owned hospitals. The remainder of this article empirically examines this issue.

HOSPITAL GOALS

In organizational research, goals are typically used as standards for assessing organizational accomplishment, with effectiveness defined as the extent to which an organization is successful in reaching its goals. This seemingly reasonable definition becomes complex and extremely difficult to put into operation when one realizes that (1) the identification of goals is a function of the theoretical perspective taken by the investigators (e.g., a closed versus an open system model), (2) organizations typically pursue multiple and sometimes incompatible goals, (3) different organizational constituencies attach differential weights to goals, and (4) organizational goals change over time [19–22]. These difficulties with using goals in effectiveness studies have led some researchers to suggest abandoning such efforts altogether [23]. While acknowledging the difficulty of using goals to assess organizational effectiveness, we argue that the concept of "organizational goal" is useful in itself, for the goal structure of an organization tells us much about the methods the organization uses to commit its resources and personnel and, in the case of service organizations, to define the form and content of its service delivery system. Hence, organizational goals are important references for their employees, clients, and the community at large. It is equally important to be aware of factors that may cause hospital goals to change; and, in this light the study reported here examines the impact of private contract management on the goals of ten public hospitals in California.

In view of the above criticisms of the goal approach, we agree with Perrow [24] that it is helpful to distinguish between (1) official goals, which define the general and publicly acceptable purposes of the organization, and (2) operative goals, which define what the organization is actually trying to accomplish. Operative goals help to limit and focus the attention of organizational members on activities which are currently defined as relevant by the organization. As Goss [25] notes, beyond the formal goal of providing medical services aimed at cure, amelioration, and prevention of disease in individuals, which all hospitals share, hospitals have an operative structure of goals which may or may not include such things as medical research, profitmaking, outpatient care, community service programs, and so on.

To structure and simplify our inquiry further, we follow Perrow [24] in distinguishing among four types of operative goals:

— *Output goals*: the goods and services the organization provides its customers and clients

—*Adaptation goals*: activities designed to enhance the organization's position in the environment and to promote its growth

—*System maintenance or management goals*: the activities of the organization designed to maintain internal stability and predictability, and to optimize the functioning of its various work units

—*Derived goals*: the uses to which the organization puts the power it generates in pursuit of other goals.

From the overview presented above, it may be reasonably proposed that private contract management alters each of the four operative goals just identified. While the activities of the public hospital designed to utilize more effectively the resources in the environment (adaptation goals) and the use of the hospital's power (derived goals) are likely to be affected by private management, the focus of this study is on the output and system maintenance goals of the hospital. Specifically we hypothesize the following:

> *Over time, the output and system maintenance goal structures of privately managed public hospitals will become more like the output and system maintenance goal structures of the private (investor-owned) hospital sector.*

OPERATIONALIZATION OF GOAL STRUCTURES

For hospitals, a reasonable measure of output goals—the goods and services provided to consumers—is the mix of facilities officially offered by the hospital. The American Hospital Association [26] annually collects data from hospitals on which of a possible 52 facilities (e.g., intensive care unit, social work, outpatient department) are actually available within the institution. The hospital's reported facilities and the change in facilities over time constitute our measures of output goals.

System maintenance goals are more difficult to measure since data on management practices are not routinely collected. The American Hospital Association does, however, collect data routinely on a number of system operating variables which, while limited in scope, do provide a measure of what goals the hospital is pursuing to maintain its internal functioning. The indicators of system maintenance goals we have selected are: bedsize, admissions, census, occupancy rate, total expenses, payroll expenses, number of personnel, and expenses per patient-day. These characteristics of hospitals reveal, to some extent,

managerial strategy regarding such factors as intensity of labor, volume of patients, and organizational size.

STUDY DESIGN

The study for this article has two stages. First, using national data from the American Hospital Association for 1980[1], we identify those output and system maintenance variables on which private (investor-owned) and public (state and local) hospitals differ.

For the output variables, the statistic used for comparison is the ratio of the observed value (or frequency) for a given facility/service divided by the expected value, calculated as the product of the proportion of the total number of hospital beds within a given ownership category and the total value (or frequency) of the structural characteristic summed across all hospitals. An ownership category for which the observed and expected values for a given facility/service are equal will have an observed-to-expected (O/E) ratio equal to 1. When an ownership category provides more of a facility/service than one would expect given its share of total beds, then the O/E ratio will be greater than 1. An O/E ratio of less than 1 means that a given ownership category is providing less of a facility/service than one would expect given its proportionate share of beds.

Our hypothesis contends that contract-managed public hospitals will, over time, adopt the output and system maintenance structures of the private sector. Hence, in the second stage of the analysis, we assess the extent to which the goal structures of privately managed public hospitals differ from those of traditionally managed public hospitals and the extent of their similarity to the goal structures of investor-owned hospitals.

All data for this analysis come from published reports of the American Hospital Association, the *AHA Guide to the Health Care Field* and *Hospital Statistics* for the time period 1972–1980 [1,26]. During this time, 14 public hospitals in California entered into contracts with proprietary hospital chains or management groups.[2] Of these 14, one contract was limited to consultative services and three of the hospitals failed to report data to AHA for any of the relevant years. Hence, our group of study hospitals consists of ten public hospitals which were actually managed under a contract agreement with an investor-owned firm. Data on output and system maintenance goals were analyzed for each study hospital—and for a matched control hospital—from the year prior to signing of the contract through 2 years post contract.

MATCHING CONTROLS WITH CONTRACT-MANAGED PUBLIC HOSPITALS

To establish a group of control hospitals for comparison purposes, ten traditionally managed public hospitals were matched with the ten study hospitals on the following characteristics: (1) geographic location (same state), (2) size of community, (3) type of control (city, county, or hospital district), (4) type of service (general medical and surgical), (5) length of stay (short-term), (6) number of long-term care beds, (7) total bedsize, and (8) completeness of data reported in the annual AHA survey 1972–1980.

In summary, ten privately managed public hospitals in California were matched on selected organizational and environmental variables with ten traditionally managed public hospitals. Each matched pair of hospitals was followed over a 3-year period beginning with the year before the contract was signed for the privately managed hospital. Changes in the facilities offered and the system maintenance variables in these two groups of hospitals over the relevant 3 years were analyzed to assess the extent to which the operative goal structures of privately managed public hospitals changed differentially from those of the control hospitals.

RESULTS

Tables 1–3 represent our analysis of the impact of private management on public hospitals' system maintenance goals. First, we look for patterns in the national data set which distinguish between investor-owned and state/local hospitals. In Table 1, it appears that the publicly owned hospitals have a slightly higher average bedsize, census, and occupancy rate, while annual admissions and expenses per patient-day are nearly equal for the two groups of hospitals. The most dramatic differences between investor-owned and state/local public hospitals are found in the number of personnel, total expenses, and payroll expenditures. In all of these categories, public hospitals have much higher values than investor-owned hospitals.

To the extent that these data represent differing operative system maintenance goals, with investor-owned hospitals operating at a lower volume of patients but with fewer personnel and lower expenditures, we should expect public hospitals managed by investor-owned management groups to reduce volume, personnel, and expenditures over time.

Table 1: Mean Values on System Maintenance Variables by Type of Ownership—National Data

	Investor-Owned N = *727*	*State and Local* N = *1,785*
Beds	114	118
Admissions	4,075	4,068
Census	73	82
Occupancy rate	64%	70%
Total expenses*	$6,630	$7,421
Payroll expenses*	$2,655	$3,716
	(40% of total)	(50% of total)
Expenses per patient day	$ 249	$ 248
Personnel	239	326

Source: [26], 1980 edition.
*In thousands.

Table 2: Mean Baseline Values on System Maintenance Variables for Privately Managed Public Hospitals in California and Matched Control Hospitals (Data Represent Year Prior to Contract for Each Privately Managed Hospital and Control)*

	Privately Managed Public Hospitals N = *10*	*Traditionally Managed Public Hospitals (Matched Controls)* *N* = 10
Beds	179	177
Admissions	6,193	5,101
Census	113	107
Occupancy rate	60%	56%
Total expenses†	$11,284	$14,819
Payroll expenses†	$ 5,897	$ 8,892
	(52% of total)	(60% of total)
Expenses per patient day	$ 274	$ 383
Personnel	508	638

Source: [1], for relevant years 1972–78.
*For example, if a given hospital entered into a contract in 1974, data for this table for that hospital and its matched control hosptial were taken from 1973 AHA annual survey.
†In thousands.

Tables 2 and 3 test this proposition. Table 2 shows the baseline data for our groups of ten privately managed and ten publicly managed hospitals in California. Of interest here is that the privately managed hospitals at the outset were operating at a somewhat higher volume of patients, yet at a markedly lower rate than traditionally managed matched controls on total and payroll expenses, expenses per patient day, and number of personnel. This points out the importance of longitudinal studies in their capacity to observe change in operative goals over time in study and control hospitals.

Table 3 presents just such a longitudinal analysis. Since the distributions of change scores for all of these variables were greatly skewed, we chose a nonparametric matched-pairs sign test for our comparison statistic. Perhaps due to small sample size and/or the short time period (3 years), only one of the system maintenance variables changed differentially at a statistically significant level between the two groups of hospitals. No clear tendency for volume to be reduced is observed in the privately managed public hospitals. Somewhat more striking is the slower rate of increase in expenditures found among the privately managed group. The median value for percentage change on total and payroll expenses, expenditures per patient day, and personnel are all lower for the privately managed public hospitals. The sign test for

Table 3: Change in System Maintenance Variables among Privately Managed Public Hospitals in California and Matched Control Hospitals over First 2 Years of Contract Period

	Privately Managed Public Hospitals N = *10*		*Traditionally Managed Public Hospitals (Matched Controls)* N = *10*	
	Range	*Median Percentage Change*	*Range*	*Median Percentage Change*
Beds	-119 - 19	-4.5	-27 - 46	0
Admissions	-1339 - 1306	6.5	-2723 - 4320	0.5
Census	-29 - 13	-2.5	-31 - 45	-2.5
Occupancy rate	-42 - 34	6.5	-10 - 23	5.0
Total expenses	-$6,665 - $7,219	13.0	$90 - $13,028	33.5
Payroll expenses	-$5,793 - $3,858	14.5	-$51 - $ 6,140	20.0
Expenses per patient day*	-$ 139 - $ 244	18.0	$ 9 - $ 208	34.0
Personnel	-333 - 74	2.0	-33 - 428	9.5

Source: [1], for relevant years 1972-80.
*Sign test for matched pairs of medians significant at p = .05.

Table 4: Observed/Expected Ratios on Output Variables (Facilities/Services Offered) by Type of Ownership—National Data, 1980

Facilities/Service	*Investor-Owned (8% of total beds)*	*State and Local (22% of total beds)*
Postoperative recovery room	1.34	1.25
Fulltime pharmacy*	1.42	1.06
Parttime pharmacy†	0.76	2.32
Histopathology lab*	1.24	0.88
Electroencephalography*	1.39	0.97
Respiratory therapy	1.31	1.28
Physical therapy department	1.22	1.22
Occupational therapy department†	0.65	0.82
Dental service†	0.84	1.09
Podiatric service*	1.56	0.86
Speech pathology	0.70	0.83
Volunteer services*	1.04	0.92
Patient representative service*	1.34	0.89
Social work department	1.11	1.01
Hospital auxiliary†	0.74	1.30
Premature nursery†	0.56	1.06
Abortion service (inpatient)*	1.38	1.17
Abortion service (outpatient)*	1.61	1.11
Hemodialysis (inpatient)*	1.04	0.84
Hemodialysis (outpatient)†	0.45	1.01
Hospice†	0.58	0.99
Emergency department†	1.12	1.38
Organized outpatient department†	0.80	1.04
Rehabilitation department†	0.68	0.85

Continued

matched pairs of percentage-change score is statistically significant only for expenses per patient-day.

Tables 4–9 test our hypotheses that the output goals of privately managed public hospitals diverge, over time, from those of traditionally managed public hospitals and, indeed, that they become more similar to the output goals found among investor-owned hospitals.

Table 4 compares all investor-owned hospitals in the United States in 1980 with all state and local hospitals. Most of the 44 facilities/services listed by AHA in *Hospital Statistics* [26] appear to be differentially represented in either the investor-owned or public sector. Since these are population data, statistical tests are not much help here; in a statistical framework, any difference among population groups represents a significant difference. We elected to call a 10 percent difference between O/E ratios for any given facility/service a substantively mean-

Table 4: Continued

Facilities/Service	*Investor-Owned (8% of total beds)*	*State and Local (22% of total beds)*
Organ bank†	0.21	1.16
Blood bank	1.21	1.26
Genetic counseling†	0.17	1.13
Open heart surgery	0.73	0.71
Alcohol/Chemical dependency department (outpatient)†	0.40	0.76
Psychiatric emergency services†	0.59	1.03
Psychiatric outpatient services†	0.38	1.06
Psychiatric partial hospitalization†	0.47	1.15
Psychiatric foster/home care†	0.00	1.36
Psychiatric consultation/education†	0.57	0.89
Clinical psychology services†	0.61	0.98
X-ray therapy†	0.69	0.87
Megavolt therapy†	0.39	0.76
Radioactive implant therapy	0.74	0.74
Diagnostic radioisotope facility*	1.34	0.92
Therapeutic radioisotope facility	0.68	0.72
Family planning department†	0.21	1.22
Home care department†	0.54	0.88
CT scanners*	0.92	0.70
Cardiac catheterization*	0.85	0.74

Source: [26], 1980 edition.
*Investor-owned O/E ratio > state & local O/E ratio by 10% or more.
†State and local O/E ratio > investor-owned O/E ratio by 10% or more.

ingful difference. Using this criterion, 12 facilities/services were represented to a proportionately greater extent among investor-owned hospitals, while 23 were represented more often among public hospitals. In general, full-time pharmacies, specialized laboratory and diagnostic services, and inpatient treatment and support services appear to be differentially represented among investor-owned hospitals. Among public hospitals, part-time pharmacies, psychiatric care, and outpatient care appear to be relatively more common.

In Tables 5, 6, and 7, we test the hypothesis that the change observed in facilities and services offered by privately managed public hospitals, as compared to controls, fits the pattern of differences described in Table 4 between investor-owned and public hospitals. Using data available from the *AHA Guide* [1] for the relevant years, each facility/service for each hospital was coded in the following way for the first 2 years of the study hospital's contract (and, of course, for the same time period in the matched control):

-1 = facility/service dropped by hospital
0 = no change in status of facility/service
+1 = facility/service added by hospital.

As shown in Table 5, the mean scores of seven facilities/services were found to differ significantly between the two hospital groups. Since the list of facilities/services in the *AHA Guide* contains a few items which are not included in *Hospital Statistics* (on which Table 4 is based), for some facilities no prediction about change over time was made (e.g., mixed intensive care unit). For all six of the facilities for which a prediction based on Table 4 was possible, however, the hypothesis was supported.

Table 5: Output Variables Which Were Significantly Differentially Added or Dropped by Privately Managed Public Hospitals as Compared to Control Hospitals over First 2 Years of Management Contract*

Facility/Service	t
Mixed intensive care unit	1.96†
Abortion service (inpatient)	1.96‡
Abortion service (outpatient)	1.41‡
Occupational therapy	-1.41‡
Psychiatric outpatient service	-1.96‡
Psychiatric emergency service	-1.96‡
Clinical psychology service	-1.41‡

*n = 10 privately managed public hospitals and 10 matched control hospitals. Facilities/Services were coded for a 2-year time period following the initiation of the contract with the privately managed hospital in the following way: -1 = dropped by hospital; 0 = no change in status; +1 = added by hospital. A positive t-value means privately managed hospitals added the service relatively more often than traditionally managed hospitals. The opposite aplies to a negative t-value. For t-statistic for matched pairs: $t = 1.96$ is significant at $p < .05$; $t = 1.41$ is significant at $p < .10$ (one tailed).
†National data not available on this facility to allow a prediction.
‡In direction predicted by national data in Table 4.

Given the small sample sizes and short time period (3 years for each hospital) involved in the study, we were reluctant to look only at statistical tests of our hypothesis. Tables 6–9 present data on facilities/services that were added or dropped solely by one group of hospitals or the other. This gives us some idea of patterns emerging within each group which may not be sufficiently strong statistically to show up in a more rigorous statistical test.

Table 6 reveals ten facilities/services which were dropped only by hospitals in the privately managed group. For three of these services, national data as in Table 4 are not available; hence, no prediction is possible. For the remaining seven facilities/services, the fact that privately managed hospitals dropped the facility while no traditionally managed hospital did so is consistent with the O/E ratios observed in Table 4. The most striking finding here is that virtually all of the facilities dropped by privately managed public hospitals were outpatient services.

The pattern of results with regard to the unique effect of private management on adding facilities/services is less clear-cut. Table 7 reveals 12 facilities/services which were added only by privately managed hospitals. None of the traditionally managed public hospitals added any of these facilities. Two of these facilities support the pattern observed with the ownership data in Table 4, while four of the facilities are inconsistent with that pattern. Although some outpatient services were added, the majority of facilities/services added solely by privately managed hospitals were high-technology and/or inpatient services.

For comparative purposes, Tables 8 and 9 present facilities/services dropped and added solely by the matched sample of traditionally managed public hospitals. Since these hospitals have not undergone administrative change, no predictions based on national data in Table 4 are made. Yet the patterns are somewhat revealing. In Table 8, the facilities/services dropped solely by the control hospitals tended toward high-technology and surgical services (notably abortions). On the other hand, Table 9 reveals that the facilities/services solely added by the control hospitals are predominantly outpatient and psychosocial services.

DISCUSSION

We began this article by identifying sources of conflict over the issue of the private management of public hospitals. One major source of conflict continues to be the different expectations held by various interest groups regarding the possible impact of private management on hospi-

Table 6: Facilities/Services Dropped Solely by Privately Managed Public Hospitals during First 2 Years of Contract*

Postoperative recovery room†	Psychiatric outpatient services‡
Blood bank†	Family planning services‡
TB and other respiratory disease service†	Outpatient department‡,§
Hemodialysis outpatient service‡	Dental services‡,§
Occupational therapy‡	Speech pathology‡,§

*Each of these facilities/services was dropped by at least one of the privately managed public hospitals during the first 2 years of the contract. None of the matched, traditionally managed public hospitals dropped any of these facilities over the same 2-year period.
†National data not available on this facility/service to allow prediction.
‡Consistent with prediction based on national data in Table 4.
§It should be noted that some privately managed hospitals also added these facilities/services.

Table 7: Facilities/Services Added Solely by Privately Managed Public Hospitals during First 2 Years of Contract*

Cardiac intensive care unit†	Histopathology laboratory‡
Mixed intensive care unit†	Radium therapy§
Burn care unit†	Premature nursery§
Physical therapy service†	Outpatient department§,‖
Psychiatric inpatient service†	Dental services§,‖
Fulltime pharmacy‡	Speech pathology§,‖

*Each of these facilities/services was added by at least one privately managed public hospital during the first 2 years of the contract. None of the matched traditionally managed public hospitals added any of these services over the same 2-year time period.
†National data not available on this facility/service to allow prediction.
‡Consistent with prediction based on national data in Table 4.
§Inconsistent with prediction based on national data in Table 4.
‖It should be noted that some privately managed hospitals also dropped these services.

tal operations. We attempted to add some structure to this issue by casting it in the framework of operative organizational goals. We argued that the debate over the positive and negative impacts of private management could be formulated as questions regarding the impact of private management on the system maintenance and output goals of public hospitals.

Our data on investor-owned and local governmental hospitals nationally, and on privately managed and matched control public hospitals in California, lend tentative support to the notion that the system maintenance and output goals of privately managed public hospitals, over time, do come to resemble more closely those held by investor-

Table 8: Facilities/Services Dropped Solely by Traditionally Managed Public Hospitals during First 2 Years of Contract Held by Matched Study Hospital*

Cardiac intensive care unit	Abortion service (inpatient)
Mixed intensive care unit	Abortion service (outpatient)
Diagnostic radioisotope facility	Podiatric services
Hemodialysis inpatient service	Patient representative services
Psychiatric partial hospitalization program	

*Each of these facilities/services was dropped by at least one traditionally managed hospital during the first 2 years of the contract for its matched privately managed public hospital. None of the matched privately managed public hospitals dropped any of these facilities/services over the same 2-year period.

Table 9: Facilities/Services Added Solely by Traditionally Managed Public Hospitals during First 2 years of Contract Held by Matched Study Hospital*

Open heart surgery	Clinical psychology services
Radioisotope therapy	Social work department
Electroencephalography	Home care department
Psychiatric outpatient services	Patient representative services
Psychiatric emergency services	Alcoholism/Chemical dependency department
Psychiatric consultation services	

*Each of these facilities/services was added by at least one traditionally managed public hospital during the first 2 years of the contract for its matched privately managed hospital. None of the privately managed public hospitals added any of these facilities/services over the same 2-year period.

owned hospitals. In particular, the rates of increase in hospital expenditures and personnel are lower among the privately managed public hospitals. It also appears that these hospitals are more likely to drop and less likely to add outpatient and psychosocial services than are traditionally managed public hospitals.

As can perhaps be expected in this situation, the data appear to support essential elements of the belief systems of both the proponents and opponents of private management of public hospitals; costs appear to be reduced and the service structures of the hospitals appear to be altered. How, then, do we summarize this assessment of the performance of privately managed public hospitals? It is certainly less than wise to impose simplistic explanations on complex matters. While some may insist on searching for villains and heroes in the story of privately

managed public hospitals, we believe it is more prudent to acknowledge the assessment of organizational effectiveness as an inherently political process. In such a process, the goals selected and the method of assessing performance with regard to the goal will reflect the values and priorities of one or more interest groups—owners, governmental regulators, customers, suppliers, and so on. These differing values and priorities, in effect, provide the differing contexts within which organizational effectiveness may be assessed. As W. Ross Ashby [27] notes:

> There is no such thing as a "good organization" in any absolute sense. Always it is relative; and an organization that is good in one context or under one criterion may be bad under another.

Such is the case with private management. Those who value highly cost control and increased organizational efficiency will, no doubt, be pleased with our findings of lower rates of increase in expenses among privately managed public hospitals. Those who value access to medical care and comprehensiveness of services more highly than cost control will oppose private management on the grounds that outpatient and psychosocial services suffer under such arrangements. While recognizing that both viewpoints provide valid contexts for assessing the performance of privately managed public hospitals, it will be the task of creative public health policymaking to reconcile these views and to chart a path for public hospitals which continues to protect the public's health. Certainly carefully crafted regionalizaton plans increasing the interdependence among publicly and privately owned hospitals would allow public hospitals to streamline operations without reducing significantly the range of services available at large to a community. Currently, government at all levels is withdrawing from health care regulatory efforts, and such a regionalization approach, of course, requires *more* government involvement, not less, in planning for health care. It is our hope that studies such as the one represented here will help to stimulate such efforts.

NOTES

1. The American Hospital Association generously provided the authors with a copy of the data tape from the 1980 annual AHA survey.
2. The authors are greatly indebted to William Shonick and Ruth Roemer for identifying California public hospitals that have signed management contracts and for sharing with the authors the results of their pioneering research on hospital contract management in California.

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