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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE IMPACT OF SELECTED THIRD PARTY REIMBURSEMENT POLICIES ON CAPITAL EXPENDITURE DECISIONS FOR GENERAL HOSPITALS

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

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degree of

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WILLIAM W. HOLDER

Norman, Oklahoma

1974

THE IMPACT OF SELECTED THIRD PARTY REIMBURSEMENT POLICIES ON CAPITAL EXPENDITURE DECISIONS FOR GENERAL HOSPITALS

APPROVED BY

Irano P. Gozzano

Fauzi G. Dimici

J. Larry Lombard

Benjamin J. Taylor

James E. Hibdon

DISSERTATION COMMITTEE

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The author accepts full responsibility for any errors or omissions in the work.

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ABSTRACT

This study was concerned with the effects the advent of Medicare and Medicaid have had upon the capital expenditure decisions of short-term, general, non-federal, not-for-profit hospitals in the state of Oklahoma. If knowledgeable decisions are to be made in modifying reimbursement structures to provide valid incentives for operational effectiveness a determination of hospital response to Medicare was deemed desirable. The purpose of the study was to ascertain whether or not sample hospitals have responded, and if so in what way, to the presence of the Medicare rules and regulations. A closely related problem resolved involved the sophistication of hospital administration in evaluating economic aspects of proposed capital expenditures. In this manner both the effects of the advent of Medicare and Medicaid could be isolated as well as determining the responsive ability of hospital administrations to various programs of incentives.

It was determined that hospital administrations have significantly altered the methods of capital expenditure planning and evaluation in response to Medicare and Medicaid. In general, hospitals now plan for longer periods of time and in much greater detail than in 1966. Individual projects receive greater scrutiny and more sophisticated analysis as well. Typically, this analysis has taken the form of cash flow analysis, unadjusted for time. No hospitals in the selected sample used time discounted techniques to any extent. Additionally, hospital administrators indicated a profound preference for prospective rate setting plans for encouraging effective operational practices. They were almost equally divided between favoring prospective cost based and prospective negotiated charge based structures of reimbursement. Significantly, none of the administrators preferred operation as a part of a Health Maintenance Organization. Apprehension of a loss of autonomy was expressed as the primary reason for this position.

THE IMPACT OF SELECTED THIRD PARTY REIMBURSEMENT POLICIES ON CAPITAL EXPENDITURE DECISIONS FOR GENERAL HOSPITALS

CHAPTER I

INTRODUCTION

On July 30, 1965, Medicare was signed into law by President Lyndon B. Johnson. The resulting impact upon the nation's hospitals has been tremendous.

Medicare (and the companion program, Medicaid) was designed to insure that elderly and impoverished individuals could receive adequate health care when needed without suffering severe economic deprivations. Approximately 23 million Americans are currently covered under the provisions of Medicare.[1] It is significant that "More than 7,000 hospitals--97 percent of the national total participated in the Medicare program."[2] During the first year of Medicare, approximately 3.2 billion dollars was paid by the Social Security Administration. This represented, by 1969, approximately 1/3 of the nation's total personal health care expense.[3]

The data gathering and reporting requirements of Medicare have made it imperative that all participating hospitals become extremely cognizant of cost collecting and

analysis techniques. One writer has stated, "Hospitals, which were evolving into up-to-date organizations administratively, have been cast bodily into revolutionary change which will undoubtedly force them to attain modern management sophistication at a much faster rate (and higher cost) than they would have without Medicare."[4]

In attempting to determine if unsolved problems existed, and if so, whether one area suitable for potential doctoral dissertation research could be isolated, several methods of investigation have been employed.

A search for literature available in the libraries of the University of Oklahoma, the University of Oklahoma Health Sciences Center, the Oklahoma Hospital Association, Oklahoma Blue Cross and Blue Shield, the American Hospital Association and the Hospital Financial Management Association plus personal interviews (as listed in the attached selected bibliography) was completed. This research revealed the existence of unsolved problems in the area of incentive effectiveness, capital expenditure and asset acquisition techniques in the health care industry. The personal interviews with extremely knowledgeable individuals in the profession were especially helpful and indicated a keen interest in research in this particular area.

Medicare and Medicaid have been in existence for approximately seven years and apparently very little is known of their effect on capital expenditure and asset acquisition practices of hospitals.

Statement of the Problem

Inadequate planning for capital asset expansion has resulted in sub-optimal delivery of health care and exorbitant costs. Hospitals have, in the past, received few, if any, incentives to operate efficiently. Typically, fragmented coverage by many insurers resulted in unquestioned payment for charges. Hospitals were thus relatively free to pass on any costs to third parties. However, Medicare and Medicaid have drastically altered this. Medicare and Medicaid audits have required detailed cost analysis heretofore not necessary. The possibility of cost disallowances were suddenly an important phenomena for hospitals to consider.

Carl J. Flath writes:

> . . . our facilities' system has floundered forward irrationally and inconsistently in a planning vacuum, with hospitals popping up in hamlets and over the prairies, and sometimes on opposite sides of the street in the cities--whenever anyone decided, unilaterally, that something was needed. Already, predictions of needed hospital beds made in the 60's are crumbling; and in many communities more beds existed or were being built in 1972 than were calculated as being required by 1975. Such free-wheeling extravagent duplication of facilities and a parallel waste of health manpower cannot be condoned if the system is to survive.[5]

J. B. Hall, Financial Vice President of Oklahoma Blue Cross and Blue Shield states in a recent private paper:

> There is a consensus in this country today that new methods must be found to contain the costs of health care and to evolve new ways to deliver health services to the American Public. However, unless some drastic, unorthodox and far reaching steps are taken quickly,

> neither of these goals will be attained in this decade. Instead, if the paths of the past are followed, the charges for hospital care in Oklahoma's two major cities--and other communities--may be expected to escalate to more than $400 per day.[6]

Phillip M. Klutznich, Chairman of the Research and Policy Committee of the Committee for Economic Development, has stated that his committee believes that the objective of providing adequate health care for all will not be met even if vastly greater financial resources are applied unless the system of health care delivery is altered and improved significantly.[7]

Dr. Eugene Rosenfeld writes:

> In the mid-1960s, the health care system could be described as a disorganized, competitive group of institutions, agencies, and individual deliverers of care experiencing already high and ever-increasing utilization levels. There were significant duplications of services and increasingly high costs for personnel, equipment, and plant.[8]

and:

> . . . the insurance plans for reimbursement lacked both cost controls and incentives for hospitals to economize. Instead, hospitals were paid for practically the total costs of all services rendered. Far too many hospitals, programs, and services were established, implemented, and justified on the ability of the institution to pass on a majority of the expenses to either the third party payer or the private patient.[9]

The Oklahoma Blue Cross Plan has officially taken the position that the most serious and well supported attacks upon the health care industry have been directed toward rapidly increasing costs resulting from inefficient allocations of resources.[10]

Dr. Richard Foster states:

> The introduction of Medicare and increased public awareness of the growth rate of hospital costs have led to greater scrutiny in all areas of hospital expenditures, including construction. Concern with the appropriateness of new construction is evident in the growing support for certification of need legislation. Hospital construction is clearly among the most controversial questions in the whole area of health care.[11]

Thus, hospitals have been accused of, and frequently admit to, the fault of a general lack of planning and efficient control of operations. It seems desirable to attempt to ascertain whether or not Medicare has had any impact upon the planning, and the decision making process for asset acquisition of hospitals. As previously stated, Medicare and Medicaid have required hospitals to at least retain, retrieve and analyze cost data never before captured. Still, hospitals continue to plan poorly as evidenced by recent writings cited earlier. However, perhaps some improvements in planning have come about as a result of Medicare and Medicaid. If so, the questions of what factors caused the improvements and how these factors can be further emphasized would seem to contribute to a continuing improvement of the operational efficiency of hospitals.

Hypothesis to be Tested

This study is primarily directed toward an investigation of capital expenditure effects of the enlarged data analysis and cost control requirements of increased high penetration third party reimbursement entities of Medicare and Medicaid.

The primary hypothesis to be tested is: Increased comprehensive, high penetration, third party reimbursement policies of Medicare have not resulted in improved capital expenditure and asset acquisition techniques in general hospitals.

A secondary hypothesis to be tested is: Hospitals are not prepared to respond to the several incentive plans for reimbursement being currently considered.

Both of these hypotheses will be tested for each strata of hospital size in the sample selected.

Possible Contributions

A thorough search of the literature plus many extensive interviews with extremely knowledgeable individuals closely affiliated with the health care industry reveals a lack of research in this particular manner and area. All of the individuals interviewed have expressed an interest in the proposed study and offered additional support in terms of time and resource material if needed. As a result of the study, the following contributions are expected to be made:

(1) The impact of third party high penetration reimbursement policies on capital expenditure practices in Oklahoma hospitals would be determined.

(2) Greater understanding by the health care industry could be facilitated as to the relationship, if any, of cost control and monitoring devices such as Medicare and increased sophistication of planning capital expansion.

(3) Results of this study would be useful to policy making entities in determining what type of incentives could be established to motivate hospitals to plan and budget capital asset expansion more carefully.

(4) Differences in capital expenditure techniques used in urban vs. rural hospitals will be isolated, thus facilitating development of incentives specifically designed for differing demographic environments.

(5) Incentives could be established so hospitals would be motivated to achieve superior capital expenditure methods thus providing a more effective health care delivery system.

It is expected that this inquiry into the effects that the advent of Medicare and Medicaid might have had upon the operations and practices of hospitals will provide a significant contribution to the body of knowledge surrounding the health care delivery system. Dr. David Drake, Associate Director of the American Hospital Association, performed a major research effort during 1966 in an effort to determine what effect, if any, differing reimbursement policies have had upon hospital operations in several states. Drake's research concluded that differing current reimbursement techniques had little effect upon the operational costs of hospitals.[12] The cost per patient day was not found to be significantly responsive to the various reimbursement plans under use in the sample states and hospitals. However, the Drake article compared only different cost formulas used by Blue Cross and Blue Shield in administering their plans. No attempt was made to define the effect of the Medicare and Medicaid cost formulas.

(It was a constant in each of the four states tested. Included in the Drake study were hospitals from Wisconsin, Illinois, Michigan, and Indiana.) Dr. Herbert E. Klarman of the Johns Hopkins University, while noting the originality and contributions of the article, poses the question: "Is it possible that research on this problem will prove more fruitful if comparisons are made before and after a major event, such as Medicare, rather than through attempts to explain differences in behavior cross-sectionally?"[13]

In such a program of research, the effects of the impact of a major event could, perhaps, be best isolated and the implications for future programs and operations formulated. It is within this framework that this dissertation has been structured.

Limitations

The results of the research must be limited as to inference to states under similar demographic conditions, reimbursement structure philosophies, and levels of third party penetration. In a majority of states, as in Oklahoma, Blue Cross and Blue Shield is the financial intermediary for Medicare and Medicaid. Also, the level of Blue Cross and Blue Shield penetration in Oklahoma is similar to penetration levels in many other states and regions. Therefore, the results of this study would be applicable in many other states of the union where similar reimbursement policies and demographic factors were found.

Scope and Methods of Research

The scope of the study will be limited to the capital expenditure and asset acquisition techniques of large urban and smaller rural hospitals in Oklahoma. These hospitals will all share similar not for profit status and equity structure.

The research will embody detailed personal interviews and examinations of hospital records. The interviews will be based upon the framework of a questionnaire and will be tape recorded to facilitate secondary comparisons of data subsequent to the interview date. It was deemed necessary to pursue personal rather than mail interviews due to the behavioral nature of the data sought. The questionnaire will be designed to establish what were the basic criteria for capital asset acquisition during 1966 and 1972, the reasons for change, if any, and what implications these data may hold for the future. Trends may thus be isolated that will provide guidance for future contemplated methods of reimbursement. Appropriate descriptive measures and tests will then be applied to test the previously stated hypotheses. It is recognized that it may not be feasible to precisely conclude that Medicare and Medicaid have been the sole causes of change in methods of capital project evaluation. It is further concluded that the effects of these two phenomena are so broad and profound that their impact can be adequately segregated and determined. The research methodology is presented in detail in

Chapter IV of this study.

Organization

The following chapter will examine the various costs and cost performance attributes of general, not for profit, hospitals. The chapter will also scrutinize inherent problems in the delivery of health care. The following chapter will discuss selected alternative forms and practices suggested for the health care industry. The final three chapters will contain the empirical research necessary to test the hypotheses and make certain conclusions and recommendations. In this manner, the problems of asset acquisition and project evaluation can be examined in a manner designed to resolve the questions posed by the hypotheses.

FOOTNOTES

[1] _____, Building a National Health-Care System (New York: Committee for Economic Development, 1973), p. 14.

[2] William Freitag, "Medicare and the Hospital Revolution," The Journal of Accountancy, February, 1970, p. 39.

[3] Ibid., p. 40.

[4] Freitag, "Medicare and the Hospital Revolution," p. 43.

[5] Carl I. Flath, "Comprehensive Health Planning," paper presented to the Hospital Financial Management Association at Ohio State University, August, 1973.

[6] J. B. Hall, "Hospital Construction in Oklahoma," private paper, p. 1.

[7] _____, Building a National Health Care System (New York: Committee for Economic Development, 1973), p. 8.

[8] Eugene D. Rosenfeld, "Areawide Planning Contains Costs if Agencies and Hospitals Equate Regional and Institutional Needs," Hospitals, J.A.H.A., February, 1972, Vol. 46, p. 37.

[9] Ibid., p. 36.

[10] _____, "Prospective Payment Experiment for Oklahoma Hospitals" (Tulsa: The Oklahoma Blue Cross Plan).

[11] Richard Foster, "How Hospitals Finance Construction," Hospitals, J.A.H.A., July, 1971, Vol. 45, p. 47.

[12] David F. Drake and Mark V. Pauly, "Effect of Third Party Methods of Reimbursement on Hospital Performance," Empirical Studies in Health Economics, 1970, p. 317.

[13] Ibid., p. 319.

CHAPTER II

EVOLUTIONARY HEALTH CARE PLANNING PROBLEMS

Current Climate

Recent years have witnessed a great deal of change and alteration in regard to the operation and financing of hospitals. The introduction and subsequent impact of Medicare have had a significant effect upon the operations of hospitals. Hospital in-patient utilization has increased dramatically in recent years. A rapidly rising standard of living and the financial availability of extended hospital care as a result of widespread health insurance plans contributed significantly to growth in the 1940's and 1950's. However, the most profound increase in hospital in-patient utilization in recent years has occurred as a result of the advent of Medicare and Medicaid. The tremendous increase in patient volume brought on by the creation of Medicare has resulted in a great deal of confusion and financial difficulty stemming from the inability of many hospital administrations to deal effectively with such rapid and substantial change. Hospital management has become a matter of "big business" even for relatively small hospitals of less than 100 beds. Increased volume requirements have

led directly to the need for significantly greater amounts of sophisticated diagnostic and treatment equipment and operating personnel.

When one considers the extremely high cost of added capital equipment and contrasts this with the ability of hospitals, prior to Medicare, to pass on increased costs with few if any questions asked, the impact of Medicare becomes clearer. One writer states:

> In the mid-1960's, the health care system could be described as a disorganized, competitive group of institutions, agencies, and individual deliverers of care experiencing already high and ever increasing utilization levels. There were significant duplications of services and increasingly high costs for personnel, equipment and plant.[1]

and:

> . . . the insurance plans for reimbursement lacked both cost controls and incentives for hospitals to economize. Instead, hospitals were paid for practically the total costs of all services rendered. Far too many hospitals, programs and services were established, implemented, and justified on the ability of the institution to pass on a majority of the expenses to either the third party payer or the private patient.[2]

Insurance coverage during this period of time was highly fragmented. Many companies paid hospitals for services rendered to patients covered under their policies without question. With the exception of Blue Cross and Blue Shield, no cost data capture was required of hospitals. Since Blue Cross and Blue Shield had not on the whole achieved a high degree of penetration they did not exercise a great deal of influence. Foster writes: "The introduction of Medicare and increased public awareness of the

growth rate of hospital costs have led to greater scrutiny in all areas of hospital expenditures, including construction."[3]

Another writer points out:

> Hospitals, which were evolving into up to date organizations administratively (they long ago evolved scientifically) have been cast bodily into revolutionary change (as a result of Medicare) which will undoubtedly force them to attain modern management sophistication at a much faster rate than they would have without Medicare. Medicare has exerted and will continue to exert pressure to attain this sophistication.[4]

Medicare currently requires hospitals to capture costs, analyze them according to revenue source, and then allocate them on a step down basis from service departments to income producing departments. Hospitals must record all charges by type of patient, classified as Medicare or non-Medicare. The percent of utilization of each department is then determined by patient type and Medicare reimburses the hospital on costs as determined by the step down procedure and the percent utilization by Medicare patients. It is easily seen that the intense attention Medicare required as to cost-benefit and cost allocation procedures has resulted in greater understanding, at least at the national or state level, of cost performance and attributes in hospitals. Hospital administrators have also become much more knowledgeable as to the cost structure of their own hospitals as a result of their required attention to costs.

However, while Medicare has created an awareness on

the part of hospitals to at least become cognizant of their operational and cost structures it has offered few, if any, incentives to control or contain costs. David Drake, Associate Director of the American Hospital Association, writing in a recent article stated that although the original intent of Medicare was to procure health services at the lowest possible cost, several problems have emerged.[5] Medicare regulations were set up to reimburse hospitals fully for all costs incurred in treating Medicare patients. A plus factor was added to reward hospitals for their efforts in this regard. However, Drake pointed out that such a philosophy provides little or no incentive for cost control or containment. He emphasizes that:

> A cost-plus basis of reimbursement provides an inducement for hospital managers to operate inefficiently and thus maximize the amount of plus factor accruing to the hospitals and that a cost-plus basis of reimbursement does not provide a rational basis for allocating capital to the health industry or among producers in the industry.[6]

These weaknesses in the Medicare reimbursement formula have given rise to a wide variety of suggested alternative forms of reimbursement plans. All of these proposed alternatives contain some mechanism offering incentives to hospitals for efficient, effective operation. Several of these plans will be discussed in some detail in the following chapter. However, before specific recommendations for improvement can be discussed, an insight into hospital costs and cost performance attributes should be provided. Therefore, the

following sections of this chapter will analyze the cost performance attributes of hospitals and examine some of the problems in planning for and achieving an optimal system of health care delivery.

The Nature of Hospital Costs

As previously indicated, in order to effectively budget and control hospital costs it is necessary to fully understand the characteristics of various cost classifications and relationships found in that industry. The appropriate treatment of various costs in decision making situations is extremely critical if appropriate courses of action are to be selected. This is especially difficult and burdensome in service industries such as hospitals. The familiar divisions of total cost into simple fixed and variable components does not provide an adequate tool for fruitful hospital analysis. Fixed costs are fixed only in relation to specified time parameters and ranges of activity. For instance, in the long run it has been stated that all costs are variable.[7] Indeed, the original decision of whether to enter the market or not considers all costs of doing business as relevant and controllable at that point in time. However, when specific operating decisions are considered on a day to day basis, then certain costs may indeed be fixed or sunk for the period of time under consideration. It is the complicating effect of this concept which has proved somewhat elusive for decision makers in

service industries in the past. The selection of the appropriate time horizon, while giving due consideration to longer run implications and non-economic factors is extremely important in attempting to establish efficient operating principles and procedures.

The other constricting dimension for fixed costs is the "relevant range."[8] Briefly, the relevant range is a range of activity levels over which fixed costs do not vary in total. Step functions and other cost relationships may exist so that certain costs are fixed only at both a certain time period and level of activity.[9]

Thus, it can be seen that the accurate analysis of various costs requires careful study and observation. This section will thus consider variable costs and their performance and then the various characteristics of costs that are fixed.

Variable Cost Characteristics

Most cost accounting textbooks treat variable costs as if they were relatively linear.[10] This practice is justified on the basis of simplicity and the premise that variable costs do indeed approach linearity in the relevant range. For many types of variable costs this position may be valid and flexible budgeting and other activity analysis can take the form of relatively simple linear relationships such as the familiar equation:

$$Y = a + bx$$

where: y = total cost

b = 100 percent capacity level of variable costs

x = percent of capacity

a = cost incurred at Ø level of activity (for totally variable costs the value of a would be zero)[11]

This equation is commonly used to depict the performance of both fixed (a) and variable (bx) costs in explanation of total cost behavior. However, its application is equally valid for variable costs alone when the proper treatment is accorded equation variable a. In many situations the assumptions of linearity is not realistic and more sophisticated analysis is called for.[12] In such cases curvilinear analysis may provide important insights as to actual cost behavior over differing ranges of activity.

Differential calculus may be usefully applied, in some circumstances, to the analysis and planning of variable costs. Essentially, this technique involves the use of simple or multiple curvilinear correlation analysis. As one author points out:

> There is a wide choice of curve types in simple curvilinear correlation and of combination of curve types in multiple correlation. The expeditious selection of appropriate curve type or combination of curve types is contingent upon logic and a knowledge of the business element interactions. Various methods of curve fitting are available to supplement the process.[13]

Once the curve which most closely approximates actual cost performance has been plotted utilizing these statistical methods, additional statistical measures should be computed. The Coefficient of Determination (which measures the percentage of variation in the dependent variable explained by the independent variables) and the Standard Error of Estimate (which indicates in absolute terms the dependability of estimates provided by the predicting equation)[14] should be computed in order to ascertain the reasonableness of the estimate.

The techniques of differential calculus may then be fruitfully applied (in conjunction with appropriate revenue curves) to such concepts as breakeven analysis, profit planning, and cost activity performance forecasts. It is evident that such procedures require a much higher degree of mathematical sophistication than ordinary linear assumptions and it may well be that the treatment of costs as linear functions is adequate in many cases. However, when we consider some of the consequences of errors in cost estimates for large capital expenditures and operating costs of hospitals it is also evident that such techniques may be profitably applied under certain circumstances.

Since variable costs are commonly assigned the attribute of remaining constant per unit of production or activity, their impact from a standpoint of cost reimbursement would not cause major variances to arise. Even curvilinear

variable costs would not cause the same degree of variance as do fixed costs at varying levels of activity, ceteris paribus. This is to say that even in curvilinear costs there is a direct correlation between production activity and total cost that tends to reduce the cost variance per unit of additional production. It is recognized that in extreme cases of unusual cost performance just the reverse may be true. However, our discussion will again be subject to the bounds of the relevant ranges.

In any event, the fact remains that much of the problem of accurately forecasting and budgeting cost per unit lies in the difficulty of predicting activity and the effect of this on fixed costs per unit. The following discussion will examine various classifications of fixed costs and relate these to the effects of volume or activity fluctuations and the budgeting problems associated with fixed cost behavior.

Fixed Cost Characteristics

The elementary proposition that fixed costs remain constant in total but vary per unit as activity levels change has important ramifications for hospitals. This is especially relevant in view of the fact that it is estimated that from 66 to 85 percent of total hospital costs are fixed in nature.[15]

Volume fluctuations thus have a profound impact upon cost per unit of activity as a result of the unusually high

fixed cost percentages existing in hospitals. In a recent dissertation dealing with this subject, Charles Montacute was quoted as saying, "The biggest portion of hospital expenses is fixed--probably almost 80 percent" and further that "this emphasizes the diseconomy which arises from any over-provisions of facilities or underutilization of them."[16] It is important to remember at this point that society may well be willing to accept some diseconomies in order to provide "standby" facilities for emergencies or disasters. Obviously, decisions will have to be made which embody more than optimum normal hospital utilization. The human cost of having too few facilities during times of great need must also receive consideration.

If diseconomies are to be incurred, it is important that rational informed decision criteria are utilized in making that determination. This implies the need for different classifications of fixed costs for budgeting purposes. Some costs are fixed as a result of primary basic decisions as to the capacity of the physical plant. Crowningshield states, "Committed costs are related to the decision of a capacity to do business" and "The amount of committed costs is fixed by decisions which were made in the past and is not subject to management control in the present on a short-run basis."[17] Included in such committed or capacity costs are idle capacity costs. These are costs, currently incurred, designed to provide capacity

for future utilization. To the extent that these costs reduce long run total costs they are appropriately incurred. However, overbuilding as a result of poor activity estimates can add a burden to efficient hospital operation in the form of idle capacity costs.

Another type of fixed costs are those termed enabling costs.[18] These costs may take the familiar step-function form of semi-variable costs. These costs are associated with the provision of a specific service at a particular activity level. As the activity level changes, abrupt changes may take place in the particular cost; however, such costs will remain fixed over a given activity level. Houser points out, "the 'edges' of the step function may be somewhat 'fuzzy,' and that such a function may be better approximated by a curve (with, perhaps, several points of inflection or by a logistics curve) than by the traditional sharp step function."[19]

A final classification of fixed costs is defined by Crowningshield as programmed costs,

> . . . which are those costs that present management deems necessary to accomplish a desired objective. Unlike variable costs, they cannot be forced to vary in direct proportion to volume; unlike committed costs, they can be changed from period to period by management decision.[20]

Hospitals incur various costs in an attempt to "provide the community the best quality and the maximum amount of services at the minimum cost subject to the limitation that operating deficits not go beyond a specified

limit."[21] Therefore, a firm conceptual understanding of the nature and performance of costs is necessary to adequately achieve this goal. In order to ascertain whether a given service should or should not be provided the "marginal cost" must be compared with the "marginal profit." The per unit of service cost of maintaining a hospital is a function of the level of activity and the cost structure of the particular hospital.

Since such a large percentage of hospital costs are fixed in nature and related to capital expenditures, it becomes quite important to ascertain their origin and the ability of management to influence and exercise some control over their initial incurrence. Indeed, "studies by the Department of Health, Education and Welfare indicate that the health services industry will need about $20 billion of new capital during the next five years."[22] Exploding technology with the consequent factor of rapid obsolescence as well as dramatically increasing demand for services have both contributed to this requirement for funds. Thus, intelligent planning for capital asset acquisition and cost incurrence is obviously a necessity.

Once a cost becomes fixed it is frequently beyond the ability of management to alter it to any extent. Therefore, the greatest energies should be applied to the decision to incur the cost when it is controllable. In decision theory for project evaluation (and related fixed cost

acceptance) revenues and costs that will change as the result of the decision are said to be relevant, while those that do not vary are considered irrelevant or sunk. Typically, the longer the time horizon selected, the more costs become relevant or variable, ceterius paribus. Indeed, as has been stated, when making the original decision of whether or not to enter the industry or market, all costs are considered relevant and controllable. However, once the decision to build and operate a hospital has been made, many costs become "committed" or fixed in nature. Items such as debt service including interest and minimum staffing levels move from decision variables to sunk categories. It is also evident that decisions of this type often involve the application of extremely large amounts of resources and the consequences of poor decision making may be quite severe. For example, if a business chooses to enter a highly competitive market with a cost structure that is atypically high then it may face ultimate bankruptcy as a result of an inability to sustain itself from operations. Much the same is true for hospitals and the health care industry. Therefore, in decisions involving the acquisition of capital assets (i.e., those benefiting future periods as well as the current one) adequate cost analysis and utilization studies are imperative. Projects should not be justified solely upon the ability of the hospital to pay for them. However, the ability of the institution to support the acquisition and

operation of the item cannot be ignored. This indicates that a variety of criteria must be satisfied before a hospital reaches a decision to invest. However, before a detailed discussion of these various criteria is attempted, it would appear desirable to review some of the principles and techniques utilized by other economic entities in the evaluation of proposed capital projects.

Capital Expenditure Planning Techniques

Charles Horngren has described capital budgeting as

> . . . long-term planning for making and financing proposed capital outlays. They are large, permanent commitments that influence long run flexibility and earning power. Decisions in this area are among the most difficult, primarily because the future to be foreseen is distant and hard to perceive.[23]

One writer involved in the health services industry further comments,

> The task of evaluating and comparing different, expensive projects within budgeting constraints is called capital budgeting. It is defined as current investment in which the benefits or cash flows are expected to be received sometime in the future.[24]

Quantifiable Measures

Profit seeking entities such as large commercial-industrial enterprises have developed a large sophisticated common body of knowledge for evaluation of capital expenditure alternatives. Perhaps the most powerful of these techniques are those that are concerned with the time value of money and the ability of the project to cover through operations its own cost and the firm's "cost of capital."

These techniques are typically referred to as various methods of analysis that employ discounted cash flow principles. Through discounting at the appropriate cost of capital, future benefits are computed in terms of their present value and compared with present costs. If the present value exceeds the present cost or if the project rate of return is greater than the firm's cost of capital then the project should be accepted, ceterius paribus. Of course, if resources are finite only the projects with the greatest net present value or rate of return should be selected. Risk can be quantified to some extent by computing an expected cash flow adjusted by a percentage basis for uncertainty. In addition to the problems faced by commercial profit making firms hospitals must cope with the additional problem of selecting an appropriate discount rate if they are to adopt these techniques. Some authors have suggested the selection of interest rates being currently earned by the hospital on its own investments or the interest cost of debt if the hospital must borrow to finance the purchase of assets.[25] While these methods provide some relevant inputs for the decision maker, they cannot be viewed as conclusive and absolute. As previously mentioned, it is important to be aware of the ability of a project to pay for itself. However, there are many other factors to be considered. A hospital or community may be in great need of a particular expensive life-saving piece

of equipment. The hospital may be willing to subsidize to some extent the operation of this project due to the desirability of furnishing this needed medical service to the community. However, it would seem prudent to precisely measure the necessary subsidy required of the hospital before actually embarking upon uneconomic courses of action.

Another extremely important criterion to be met that is financially quantifiable and measurable is that of adequate timely cash flows. If funds are not immediately available for the purchase of capital assets, then the hospital must turn to some type of external financing. The subsequent operation of the project must usually then provide the necessary cash flow for debt service or lease payments. If an asset is to be acquired, the least cost method of financing should be chosen. Thus, the problem of optimal financing methods also becomes important. Lease-buy decisions are illustrated in many elementary and cost accounting textbooks and a full discussion of such evaluative techniques is not deemed necessary in this work.[26] However, due to differing cash flow characteristics of debt vs leasing methods and programs of reimbursement, hospitals may be forced to select uneconomic methods of financing projects in order to fulfill debt service or lease payment requirements in a timely fashion. For example, if depreciation for a cost reimbursement program requires using an asset life of 15 years it will require this amount

of time to capture the full reimbursement in cash for the original purchase of the asset. If the repayment requirements of a loan are over a 10 year period then an obvious cash flow problem must be faced. However, if the hospital chose to lease the asset, then under the terms of an operating lease the total cash payments required each year would be fully and currently reimbursed thus resolving the cash flow difficulties. This is true even if leasing is the most expensive method of acquiring the services of the asset. The hospital can effectively transfer a substantial part of the higher cost of the lease to third party payors while insuring adequate cash flows to meet legal obligations. It is interesting to observe that current Medicare regulations are attempting to require hospitals to more closely adhere to the basic position of the American Institute of Certified Public Accountants in regard to the accounting treatment accorded leased assets. Basically, this involves classifying certain leases as lease-purchases requiring depreciation over asset life if various incidents of ownership tests are met.[27] Leases are analyzed and if it is concluded that the lease is in essence a purchase of the asset, the lease payments cannot be currently deducted. Rather, the cost of the asset must be recovered by depreciation or amortization over presumably a longer asset life. Thus, the improved cash flow benefits of leasing previously noted would be removed in these situations.

It should also be noted that if sufficient internal funds were available then there would be "a distinct possibility that Medicare would disallow any additional interest reimbursement" if outside financing were still selected by the hospital for asset financing.[28] Also, although some methods of accelerated depreciation are allowed, they are generally considered inadequate for the purposes of materially easing cash flows and facilitating optimal capital budgeting processes.[29]

Other commonplace techniques of project evaluation such as payback methods and rate of return computations can be applied to problems of the health care industry with varying degrees of usefulness. As in the case of the time discounted methods each of these should be applied and viewed as only part of the evaluative procedure in asset acquisition deliberations. The largest most perplexing problem faced in the evaluation of proposed projects lies in the fact that the primary purpose of hospitals is not to maximize profit, but rather to provide the best patient care within finite resource limitations.[30] Several methods have been developed to attempt to measure how much given projects will contribute to that goal. Each of these methods include some attempt to measure non-monetary benefits. Several of these proposed methods will be examined in order to gain an appreciation of the magnitude and complexity of the problem.

Non-Monetary Factors

Most of the authors attempting to attack the problem of measuring non-monetary benefits devote attention to the characteristics of the patients treated and the quantity and extent of the benefits received.[31] In one recent article Richard Wacht suggests the quantification of differences in earning potential of patients receiving treatment. To apply the procedure one merely determines the present value of the individual's lifetime earnings prior to receiving the treatment and compares it with the lifetime potential of the patient after receiving the care. Any difference is then extended by the projected number of patients to be treated and thus the social present value of the proposed asset can be determined and compared with the required investment.[32] Obviously this method uses broad demographic and actuarial data that must be applied to specific capital budgeting decisions. While such techniques could possibly prove valuable at a national or regional level, severe problems would seem to emerge in attempts to apply them to local individual hospital problems.

One of the most significant impediments to acceptance would be to gain multilateral acceptance of the application of such techniques by both providers and reimbursers. Varying demographic factors even within a single city could serve to distort and render useless any universal estimate of human productivity. Therefore, each hospital

could conceivably find it necessary to compute separate human benefit quantities for each specific investment decision to secure agreement from the various high penetration reimbursement agencies. Another related problem in such a program involves the sophistication necessary at the hospital level to successfully implement and conclude such studies.

A second set of factors that would seem to complicate such a system would involve the treatment decisions for non-productive sectors of society such as the aged. Presumably a different set of criteria would be required to allocate capital investment to this and other similar groups of people who are not in a strict sense "economically productive." Wacht recognizes that other inputs will be necessary and desirable in arriving at sound capital budgeting decisions and his effort in this area should be welcomed and accorded adequate attention and consideration.

Another system of evaluation that has been proposed involves a requirement that "administrators assign percentage weights to benefits for each of the projects."[33] Initially, normal present value computations would be made equating revenues and costs at a common point in time. Projects resulting in a positive net present value would be accepted as indicated by the computation. Projects which indicate a negative net present value or net present loss would require additional scrutiny. Non-monetary

benefits would be estimated and converted to percentage weights by administrators. The factors to be considered in arriving at quantified weights would include "lifesaving potential, present availability of service, and utilization potentials."[34] These quantified weights would then be converted to an output rating by multiplying them by the productive hours of use of each project. The next step would be to divide the output rating by the previously computed net present loss resulting in a rating for each proposed project. Administrators would then select projects based upon the highest rating representing the most favorable endeavor.[35] By considering more factors than future patient contributions to society this model would seem to provide a greater potential benefit. However, some of the same pitfalls in application are still present. The problem of cost reimbursement would still require a consensus between each individual hospital and the various reimbursers. Although the investment could be viewed as socially desirable the problem of the hospital's ability to pay for the asset would still arise. The factors considered would vary from situation to situation requiring specific analysis and negotiation for each instance. The ability of hospital administrators or, for that matter, anyone to accurately quantify such factors as have been mentioned appears tenuous at best.

Perhaps such models as these could be more fruitfully

applied at a national or regional level to determine specific reimbursement rates for individual treatments. Such a concept will be discussed and developed in greater detail in the following chapter. It should, however, be obvious that suggestions such as these provide valuable sources of information for attempts to ascertain appropriate, workable, and acceptable methods for the maintenance and development of the health services delivery system. Before moving to a discussion of alternate health care delivery methods a further analysis of some of the inherent problems of the industry should be undertaken.

Problems in the Delivery of Health Care

The health care industry is unique in many respects. While many factors and phenomena combine to establish its uniqueness, perhaps one of the most pervasive lies in the realm of consumer expectations and perceptions. The consumption of hospital services is colored with an emotionalism found in few other industries. A hospital must have as its overriding concern the excellence of patient care. Patients and society as a whole must also perceive that this is the hospital's primary concern and goal in order to be motivated to provide the necessary support. This concern has increased dramatically as public funding and support for hospitals has risen. This is an especially constraining phenomenon for hospital administrators attempting to allocate finite limited capital to a wide variety of projects, some of

which must necessarily be deleted. This point becomes especially evident when the deletions involve the rejection of life saving equipment and projects.

There are many other obstacles to effective planning such as forecasting demand, predicting changes in policy by third party reimbursers and advances in technology. Each of these deals with the ability of the hospital's administration to forecast the future with accuracy. As one author stated:

> Today long-range planning is more sophisticated and complicated because of the changing structure of the national health care delivery system and the resultant impact upon the role of the hospital. The essence of planning is acknowledgement of and accommodation to change in such areas as medical practices, health insurance coverage and benefits, governmental involvement in the health care delivery system, community attitudes toward hospital services, and the need for and availability of health service personnel.[36]

One can easily see that most hospital administrators cannot possibly be as knowledgeable, perceptive, and enlightened as is necessary to develop adequate timely plans and responses to arising needs and challenges in the industry. This implies that information and expertise must be solicited from other sources. Obviously local or regional planning agencies can provide a wealth of important relevant information. However, other sources may also contribute valuable data. Such agencies as state health departments, utility companies, school systems, and business and commerce departments of colleges and universities "can add much additional information for attempts

to foresee and plan adequately for the future."[37]

A noted investment banker has stated that as hospital costs of capital asset additions continue to rise and require additional external funding it becomes more desirable and necessary for hospitals to plan for and justify the proposed investments. Many of the techniques used presently by commercial entities should be adopted by hospitals including such items as precise cash flow projections, debt service capabilities of projects, and debt equity relationships of current hospital financial structure. He further suggests the retention of competent consultants to aid in project evaluation if such expertise is lacking in the administrative staff of the hospital.[38]

Thus, it becomes obvious that increased sophistication of economic feasibility studies will be necessary if capital expenditures are to be financed from external sources. Bankers and other commercial lenders will require plans of financial activity of hospitals to be as comprehensive and well developed as those of other industrial entities. Hospitals can no longer resort to end of year support "drives" to alleviate deficits or the inability to meet debt service requirements. Estimates of future activity must be based in firm logic and presented in clear unequivocal formats. This is not to say, however, that philantrophy should not be considered. Indeed, private fund raising through campaigns has a great deal to offer and can

play a vital role in financing a community hospital. There has been a change in the philosophy of giving for hospitals. As one author states, "Annual giving to meet operating deficits or to help pay for free and below-cost care generally is a thing of the past."[39] However, he further writes,

> As a result (of improved solicitation methods) the hospital receives more contributed money in the long run, because a combination of an ongoing development program and an occasional intensive capital campaign is more effective than either approach used exclusively.[40]

A further benefit accruing to the hospital as the result of a properly administered ongoing program of institutional development is improved community relations.[41] A feeling of participation and a spirit of cooperation resulting from attacking and resolving common problems can add a great deal to the posture of a community's spirit. These are intangible benefits that are difficult to measure. However, a civic minded, spirited community is often attractive to new industries and other sources of economic growth and development. In summary, although philantrophy has grown in recent years it has provided a smaller portion of capital funds as inflation and expanded services have greatly outpaced programs of donation.[42]

Thus, it can be seen that hospitals are turning more than ever before to operations as a source of funds for debt service, asset acquisition, and working capital requirements. To ascertain the long-range adequacy of this phenomenon it is necessary to examine the present

system for reimbursing hospitals for services rendered.

As has been previously stated, prior to the introduction of Medicare, the reimbursement mechanism for hospitals consisted of a highly fragmented group of private and third-party payers. The possible exception, as has also been previously noted and discussed, was Blue Cross and Blue Shield which has remained relatively constant. Now, however, Medicare provides approximately 40% of all hospital revenue.[43] Thus, it can be easily seen that Medicare and Medicaid have displaced much of the hospital's fragmented sources of revenue during the last 8 years. It, therefore, follows that the reimbursement practices and policies of Medicare will also have had a substantial impact upon the cash flow and resulting financial posture of the hospital industry.

Currently, Medicare reimburses hospitals based upon claims filed at intervals during the years. At years end a detailed Medicare cost report must be filed and an adjustment is usually required. If the interim reimbursements are more than the hospital is to be allowed based upon the cost report then the hospital must refund the appropriate amount to Medicare. Of course, the converse is also true and the cost reports and other data are subject to audit and further adjustment for a period of several years after the report has been filed. Obviously, all of these contingencies tend to cloud the future and compound

the already difficult problem of planning operations and capital expenditure programs.

Indeed one author states:

> The important Medicare implication is that financing from the depreciation fund is the least attractive way to finance assets. This appears to be contrary to common sense; it would seem that the most logical place to look for funds with which to acquire or replace assets would be the depreciation (caused) fund. However, Medicare principles allow for the reimbursement of interest expense without requiring reduction for earnings on funded depreciation.[44]

This statement indicates that not only is planning made more difficult but that incentives are offered for uneconomic decisions by Medicare regulation. In this respect, the Committee for Economic Development has stated that one of the major causes of medical-care inflation has been the regulation and principles of Medicare cost-reimbursement.[45] Hospitals are not motivated to seek out and accept the least cost methods of financing under present cost reimbursement principles. Rather, they are encouraged to select the method of financing that can be the most closely related to cash flows resulting from cost reimbursement regulation. In this respect, one writer stated:

> I challenge any legislator or bureaucrat to repay a 20 year loan on reimbursement based on 40 year depreciation. On this basis you are 50 percent short, and with a possible future of almost 100 percent funding through this route, the word bankruptcy could well blanket the hospital system.[46]

Thus, what appears optimal appropriate action for a single hospital is obviously suboptimal conduct for the entire industry. In any event, it would seem that such policies

as this could certainly have stimulated hospital administrations to analyze capital asset acquisition problems much more closely than in the past. If it is determined that hospital administrations have responded in this manner to these unintended incentives, then it would also follow that they would respond positively to incentives that tend to encourage more efficient methods of capital financing and operations.

Summary

Total hospital costs are divisible into normal variable and fixed components. It has been determined that most (perhaps 80 percent) of total hospital costs are fixed and since they comprise such a large segment of total cost they have been carefully analyzed and further classified into such categories as committed, enabling, and programmed. Such classifications have permitted a greater understanding of cost performance in hospitals, thus providing a necessary element for capital budgeting and project evaluation.

Capital budgeting in hospitals is complicated by several factors but perhaps the most pervasive is the absence of a profit motive. The primary goal of health care institutions is, and should remain, the rendering of quality patient care. However, concern with the efficiency and cost effectiveness of hospitals has resulted in consideration of various alternative schemes of payment for

medical care.

Much has been written in regard to the deficiencies of present cost-reimbursement methods. The original purpose of Medicare regulations and principles was to procure health services at the lowest cost. However, several attributes of present policies tend to encourage inefficient operation. The major criticisms center about major premises in regard to capital financing. Specifically, they include

> . . . the loss of capital or the dissipation of funds such as funded depreciation, due to the inadequacy of the reimbursement formed in regard to bad debts and charity or free care; the exclusion of long-term debt expenditures from the reimbursement formula or the inadequacy of the depreciation and the "plus factor" in meeting these needs of the hospital and the resultant cost of this expenditure being met through revenues produced by service to other patients; and the possibility that depreciation, even when fully funded and left intact, is inadequate to compensate for the inflationary increases in construction costs and equipment prices.[47]

The next chapter will consider the implications of hospital cost behavior and characteristics and the problems that have emerged from current rimbursement techniques in analyzing suggested alternatives to the present system of health care delivery. Recent legislative and professional developments will be examined for validity of purpose and intent and suggested alternatives of present policies will also receive scrutiny. The efforts and talents of all parties to the health care industry have been applied to attempts to improve the delivery of their service. The problems of this industry are large and complex. Resolution of them requires slow painful progress marked by

errors and missteps. Thus, the following chapter should be construed as merely suggested alternatives and not precise recommended all-encompassing solutions.

Footnotes

[1]Eugene D. Rosenfeld, "Areawide Planning Contains Costs if Agencies and Hospitals Equate Regional and Institutional Needs," Hospitals, J.A.H.A., Vol. XLVI (February, 1972), p. 37.

[2]Ibid., p. 36.

[3]Richard Foster, "How Hospitals Finance Construction," Hospitals, J.A.H.A., Vol. XLV (July, 1971), p. 47.

[4]William Freitag, "Medicare and the Hospital Revolution," The Journal of Accountancy, February, 1970, p. 39.

[5]David F. Drake and Mark V. Pauly, "Effect of Third Party Methods of Reimbursement on Hospital Performance," Empirical Studies in Health Economics, 1970, p. 297.

[6]Secondary citation from Drake article, p. 297, Department of Health, Education and Welfare, Guidelines for Incentive Reimbursement Experiments (Washington, D.C.: U.S. Government Printing Office, 1968).

[7]Gerald R. Crowningshield, Cost Accounting Principles and Management Applications (Boston: Houghtly and Mifflin Company, 1969), p. 713.

[8]Charles T. Horngren, Cost Accounting and Managerial Emphasis (New Jersey: Prentice-Hall, Inc., 1967), p. 24.

[9]Richard Houser, "A Cost Behavior Model in a Service Industry--Development and Analysis," paper presented at the Southwest Social Sciences, March, 1973, p. 4.

[10]Horngren, Cost Accounting and Managerial Emphasis, p. 195.

[11]Ibid.

[12]Travis P. Goggans, "Break-Even Analysis with Curvilinear Functions," The Accounting Review, Vol. XL, No. 4, p. 867.

[13]Robert A. Knapp, "Forecasting and Measuring with Correlation Analysis," Contemporary Issues in Cost Accounting (1966), p. 333.

[14]Ibid.

[15]Richard Houser, "Cost Variation with Volume in a Non-Federal Short-Term General Hospital" (unpublished Ph.D. dissertation, University of Wisconsin, 1971), p. 13.

[16]Charles Montacute, Costing and Efficiency in Hospitals: A Critical Survey of Costing as an Aid to the Management of Hospitals, p. 179 cited by Dr. Richard Houser, "Cost Variation with Volume in a Non-Federal Short-Term General Hospital" (unpublished Ph.D. dissertation, University of Wisconsin, 1971), p. 15.

[17]Crowningshield, Cost Accounting Principles and Managerial Applications, p. 473.

[18]Houser, "Cost Variation with Volume in a Non-Federal Short-Term General Hospital," p. 41.

[19]Ibid., p. 42.

[20]Crowningshield, Cost Accounting Principles and Managerial Applications, p. 473.

[21]Houser, "Cost Variation with Volume in a Non-Federal Short-Term General Hospital," p. 56.

[22]Jack A. L. Hahn, "Hospital Financing in the '70s," Hospitals Journal of the American Hospital Association, March, 1972, p. 2.

[23]Charles T. Horngren, Cost Accounting and Managerial Emphasis (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967) p. 440.

[24]Jean P. Gagnon and Christopher A. Rodowskas, "Capital Budgeting Techniques in the Hospital: Problems and Potential," American Journal of Hospital Pharmacy, September, 1971, p. 686.

[25]Ibid., p. 689.

[26]Horngren, Cost Accounting and Managerial Emphasis, p. 515.

[27]American Institute of Certified Public Accountants, APB Opinion No. 5--Reporting of Leases in Financial Statements of Lessee (New York: American Institute of Certified Public Accountants), paragraph 15.

[28]Martin E. Drebin, "Financing Capital Equipment under Medicare," Hospital Progress, June, 1969, p. 124.

[29]T. R. McDougal, "Some Effects of Cost Reimbursement on Capital Requirements of, . . ." Published Thesis, The University of Alabama, Birmingham, Alabama, 1970, p. 81.

[30]Gagnon, "Capital Budgeting Techniques in the Hospital: Problems and Potential," p. 689.

[31]Paul L. Bash, "Can Capital Budgeting Work in Hospitals?," Hospital Administration, Spring, 1971, p. 61.

[32]Richard F. Wacht, "Capital Budgeting Decision-Making for Hospitals," Hospital Administration, Fall, 1970, p. 24.

[33]Secondary citation from Gagnon article, p. 689. H. J. Mottice, "A Method of Analyzing Proposed Expenditures for Hospital Medical Equipment" (unpublished thesis, The Ohio State University, Columbus, Ohio, 1964).

[34]Ibid., p. 689.

[35]Ibid., p. 691.

[36]Richard Gifford, "Ten Steps to Long-Range Planning," Hospitals Journal of the American Hospital Association, March, 1972, p. 5.

[37]Ibid., p. 5.

[38]Gordon H. Berg, "Integrating Capital Financing in the Building Process," text of a speech given at the Institute on Capital Financing for Hospitals and Related Health Care Facilities in Houston, Texas, March 29, 1972.

[39]Raleigh L. Smith, "Is Philantrophy Dead?," Hospitals Journal of the American Hospital Association, March, 1972, p. 24.

[40]Ibid., p. 25.

[41]Ibid., p. 26.

[42]Richard W. Reed, "Answers to Funding," Hospitals Journal of the American Hospital Association, March, 1972, p. 15.

[43]Telephone interview with Jim Hicks, Deputy Director of Medicare, H.E.W. Regional Office, Dallas, Texas.

[44]Drebin, "Financing Capital Equipment under Medicare," p. 124.

[45]Committee for Economic Development, Building a National Health-Care System (New York: Committee for Economic Development, 1973), p. 73.

[46]Hahn, "Hospital Financing in the '70s," p. 3.

[47]McDougal, "Some Effects of Cost Reimbursement on Capital Requirements of, . . ." p. 42.

CHAPTER III

SUGGESTED ALTERNATIVE FORMS AND PRACTICES OF HEALTH CARE DELIVERY

Introduction

The health care industry currently faces a great deal of criticism and potential change. Hospitals will find it necessary to examine and understand cost performance and cost structures in a much more sophisticated manner. The previous chapter provided some insights into the problems of characteristics of hospital cost performance. The dysfunctional consequences of inadequate planning and decision making are obvious. Therefore, prior to the adoption of any alternative system of health care financing it should be determined that hospitals are capable of responding positively to any incentives contained in the program. This dissertation will inquire into the ability of hospitals to budget and plan for capital expenditures under current reimbursement programs. In this manner, some knowledge will be gained as to the relative sophistication and capacity of hospitals to evaluate programs of expenditures. However, before this study is performed an analysis of various potential methods of reimbursement and financing is necessary.

This chapter will consider selected current proposals and alternatives to the manner of payment which currently exists at the national level. Several selected Blue Cross plans will receive scrutiny when it is determined that they contain radically different and potentially useful concepts.

Current Legislative and Professional Developments

The health care delivery system in the United States is currently receiving a great deal of scrutiny from various groups and organizations throughout the nation. Both spiraling increases in provider costs and changing social perspectives have contributed to this phenomenon. Thus, the subject of alternative practices and forms of health care delivery is presently of prime importance to government, industry, and consumer alike. For example, President Nixon recently signed legislation designed "to spur development of group health plans."[1] This $375 million measure encourages the formation of health maintenance organizations. The article states further that "the new law is intended to demonstrate the feasibility of the prepaid health maintenance organization operation during the next five years."[2] It is anticipated that this legislation could more than double the number of health maintenance organizations currently existing from 115 to about 300.[3] The concept of health maintenance organization operation will be discussed and developed at some greater length later in this chapter.

A second plan of health care has been offered by

Senator Edward M. Kennedy. Although Senator Kennedy had originally proposed a comprehensive cradle-to-grave federally financed health insurance plan he has recently altered his bill to one that is similar to the one prepared by President Nixon.[4] The new measure offered jointly by Senator Kennedy and Representative Wilbur Mills offers fewer benefits and less federal control than the original one which called for a $1,000 ceiling on total health costs per year per family. Another bill offered by Senator Russel B. Long and Senator Abraham Ribicoff, that has received strong congressional support, would protect families from catastrophic losses. This legislation would pay all hospital bills over $2,000 per family per illness.[5] These plans all represent some method of shielding American families from the tremendous financial burden that often accompanies critical illness.

P.L. 92-603

Another recent law (P.L. 92-603, Social Security Amendments of 1972) for the first time holds doctors "publicly accountable for the quality, medical necessity, efficiency, and cost effectiveness of the health care they provide."[6] These particular provisions presently apply only to Medicare and Medicaid cases. However, it is quite easy to discern the possibility of an expansion of these requirements to include other categories of patients. This law requires the creation of Professional Standards Review Organizations made up of local physicians established and named by local medical societies. In this respect it is

also interesting to note that the Department of Health, Education, and Welfare authorities have "abandoned a plan to create special review committees to determine in advance which patients could be admitted to hospitals under Medicare and Medicaid programs."[7] This particular suggestion sustained a great deal of severe criticism and was dropped after its desirability and feasibility were seriously questioned. One knowledgeable writer in the field of health care has stated that a major problem in new programs such as those previously mentioned is that they all fail to "spell out how to get from here to there in the real world" and further that performance "as a result of false-starts and trial-and-error failures has turned out to be much less than had been envisioned."[8] Flath further cites as an additional example the history of Public Law 89-749 dealing with comprehensive health planning.

P.L. 89-749

Basically, this law, passed in 1966, establishes agencies for health planning on a statewide basis funded by federal grants. It also established regional or area planning agencies to be only partially funded by federal grants, the remainder coming from state and local sources. Flath further writes, "By July 1, 1973, 61 state agencies and 213 area-wide agencies were operative at a total inception to date cost of about $300 million."[9]

In a further test of the effectiveness of these

institutions Flath surveyed them and found that "on balance, results from this study did not produce a picture exclusively filled with gloom, for a few of the responses reflected islands of excellence, albeit in a sea of relative mediocrity."[10] However, Falth continues to write that the greatest impediment preventing success involved the complete absence of specific leadership from congress as to how the mission and goals of comprehensive health planning should or could be reached. Indeed in the May 7, 1973, issue of the United States Government publication "Commerce Business Daily," a request appeared for proposals

> . . . to develop a manual for areawide comprehensive health planning agencies which will present a complete methodology which these agencies can use to assess health care needs throughout the geographic jurisdiction which they serve.[11]

While this search for solutions is praiseworthy, it should also be noted that this notice appeared more than six years after the initial establishment of comprehensive health planning under P.L. 89-749. The lack of planning and foresight demonstrated by Congress in the implementation process of this program is, thus, quite obvious.

Oklahoma Blue Cross and Blue Shield plans have recently initiated an experiment involving twelve Oklahoma hospitals designed "to develop a method of payment by third party agencies for hospital care which will result in more effective cost containment through prospectively agreed upon budgets and payments made concurrently with liabilities incurred."[12]

The first objective listed by the Oklahoma Blue Cross and Blue Shield plans of this experiment is to "determine if prospectively negotiating budgets will have cost containment effect."[13] This program represents a significant departure from retrospective reimbursement based upon historical cost currently in wide use in the nation. The Oklahoma Blue Cross and Blue Shield staff report further states:

> It is the opinion (of the staff) that cost containment is being accomplished in the program even though these opinions are probably based upon insufficient studies and comparisons. The studies that we have been able to complete indicate that cost in the participating hospitals is increasing at a rate far below that of non-participating hospitals of similar size in the state.[14]

The underlying concepts of prospective reimbursement based upon costs or negotiated charges will be developed and examined later in this chapter; however, it is readily apparent that serious consideration is being accorded several alternative schemes of organization, reimbursement, and cost containment aspects of the health care delivery system. The basic structure of health care delivery in future years will undergo rapid and profound change. The importance of carefully examining and testing various proposed alterations of the system cannot be overstated. The remaining portions of this chapter will be devoted to a detailed analysis of selected specific proposals for the alteration and improvement of the health care system structure and delivery effectiveness.

Health Maintenance Organizations

A great deal has been written recently regarding the desirability of forming health maintenance organizations on a broad national scale to stimulate changes resulting, hopefully, in a more effective health care delivery system. Before an analysis of arguments supporting or refuting the utility of health maintenance organizations can be attempted, an examination of some of the basic concepts and suppositions underlying this form of entity and its operations will be made.

The operation and success of health maintenance organizations initially involves the establishment of physician "group practice linked with prepayment and thus associated with a subscribing population or clientele."[15] This publication of the Committee for Economic Development traces the first attempts to establish such an organization to the Community Hospital of Elk City, Oklahoma.[16] Later in this section of this chapter the results of an interview with the past Medical Director of this hospital are summarized. Dr. M. Sugarman held this position for many years following its operation as an early health maintenance organization and is intimately familiar with the institution's practices and problems.

The basic objectives of a health maintenance organization are stated as the prevention of disease and illness and maintenance of health.[17] This philosophy represents a significant improvement over the current rather passive objective

of treating illness subsequent to its onset and appearance. This is perhaps one of the most favorable and persuasive arguments in favor of the adoption of the health maintenance organization concept. In a personal interview Mr. J. B. Hall, Financial Vice-President of Oklahoma Blue Cross and Blue Shield, stated that the current practice of treating acute or chronic diseases has advanced about as far as is economically and scientifically feasible. According to Mr. Hall, further progress in raising the level of health and health care in this country will probably result from the broad societal acceptance of the concept of preventive medicine.[18] Some way must, therefore, be found to motivate and encourage broad sectors of society to seek out health care services prior to the advent of illness. Such sweeping and profound goals will require material alterations of current basic practices and philosophies of the health care delivery system. Therefore, it becomes quite obvious that there are many significant obstacles and problems to deal with and overcome.

Psychological Factors

For example, there is currently some concern regarding the inertia of the populace in submitting to regular annual physical examinations. In order for the concept of preventive medicine to become fully functional it will be necessary to insure that most individuals receive regular, timely, complete physical examinations. Although no method

has yet been designed to achieve this goal, some suggestions have been offered. In recent years wide use has been made of television and radio announcements and other media exposure regarding the desirability of accepting and performing certain preventive steps and procedures. Another possible technique designed to stimulate participation in examination and other health maintenance programs could involve a requirement by third party insurers that members of this insurance program submit to a physical examination annually by a physician of the member's choice as a criterion for continued coverage under the plan. Optional higher premium cost plans could be offered which would not require the annual physical examination for membership. Thus, individuals would not be "forced" to submit to an examination but would, rather, be offered a substantial incentive to do so. In this manner great masses of the population could be motivated to begin acting in a manner conducive to the prevention of illness instead of merely treating the disease after its onset. In any event it is clear that major effort and incentive provision will be necessary to stimulate society to adequately support a program of preventive medicine.

Legislative Controls

Another phenomenon restraining the implementation of health maintenance organization-preventive medicine development lies in the area of legislative control. The Committee for Economic Development stated that "armchair legislation

and rulings impede the development of new comprehensive delivery systems."[19] For example, there are currently many legislative restrictions involving "the right to organize group practices to provide comprehensive care, to establish prepayment plans offering comprehensive benefits, or to combine group practice with prepayment."[20] Another pertinent instance of restraining legislation is evidenced by the Cost of Living Council's Phase IV rules and regulations. A letter to the Oklahoma Congressional delegation from the controller of a relatively small Oklahoma hospital unequivocally states,

> We were stymied by the first controls and it appears now that with the implementation of Phase IV we are on a bankruptcy course--unless we cut the quality of patient care, unless we lay off many employees, unless we purchase inferior products, unless we hire unqualified people (which we will have to do because controls will not permit us to pay comparable wages with other industries) to render what is classed highly professional services.[21]

During the course of interviews with several hospital administrators (both large and small institutions) similar sentiments and beliefs were voiced unanimously. Controls are being lifted in almost all areas of the economy save petroleum and health services at the time of this writing. The result of this action produces a severe cost squeeze especially upon hospitals as the major providers of health care. Such an atmosphere of economically punitive regulations would seem to provide little incentive for exploring radically different and innovative approaches to the delivery of health care.

It should be noted that at the time of this writing it appears that all controls may be lifted as of April 30, 1974.

A third impediment mitigating against the prompt efficient formation of health maintenance organizations involves the present physical structure of most hospitals. Hospitals, until quite recently, were constructed primarily for the purpose of acute or severe chronic illness and treatment. With a shift in emphasis toward preventive techniques it will be necessary to redesign or alter the construction of hospitals to facilitate this change of philosophy. There is some evidence available that many new hospitals are being constructed in such a manner so as to be more flexible and adaptive to changes in modes of treatment and operation. For example, in Columbia, Maryland, the Columbia Hospital and Clinics Foundation is examining the possibility of designing

> . . . a preventive medical facility that will encourage active and prepaid involvement of the "well" community in its own health care through cooperation with teams of medical specialists and paramedical personnel.[22]

Architects are attempting to design "modules of space" to allow varied functions to take place within similar spaces. This technique will facilitate the changing practice of medical illness treatment to one of disease prevention at a minimal cost. A further step in reducing the cost of construction may be represented by the development of prefabricated techniques. In this respect, it has been stated that present construction methods have been made about as efficient as possible. Hourly wages of workers in the building industry

have risen much faster than productivity gains.[23] Therefore, greater interest has recently been shown in regard to prefabrication of modules in a mass production and assembly procedure. It has been estimated that if prefabrication and modular construction techniques were adopted a cost savings of 25% could possibly be realized while potentially reducing on site construction time by 50%.[24]

Another innovation currently in use at the Presbyterian Hospital of Dallas involves the use of the "adaptable building system" concept developed by the Texas A&M school of architecture.[25] In this institution horizontal wall panels with vertical steel connectors can easily be moved to facilitate different room sizes and configurations in order to inexpensively contend with the rapidly changing physical facility demands of current medical practice. Major modifications of building structures are thus permitted without the slightest patient disturbance from noise or dirt.[26] The funds for this project were provided by three Public Health Service grants after a recent study revealed the current existence of over 250,000 obsolete hospital beds with more being added each year. The survey also predicted that "between 1970 and 1980 a hospital will need to make some changes in its facilities every one to two years."[27]

While many older hospitals present permanent, expensive-to-alter facilities, it is also evident that recent design and construction innovation may significantly aid

hospitals to become more easily and inexpensively adaptable to the changes required by medicine and possible health maintenance organization operation. In any event, it is quite clear that altering the health care delivery system to a form of health maintenance organization will place many additional responsibilities upon the leaders of these entities.

When or if a system of prepaid medical care is adopted, hospitals will be obliged to furnish service when needed without additional remuneration. Therefore, knowledgeable accurate forecasts of plant utilization and cost performance will be necessary to insure continued ability to serve. When prepaid rates are set they must be adequate to cover all costs of rendering care and health maintenance organization operation. Risk is thus transferred to the hospital which must survive by the adequacy of revenue coverage of costs. However, it should also be noted that the potential reward to hospitals (and the entire health maintenance organization) is also increased for through effective efficient operations greater net profit from operations can be achieved. Health maintenance organization operation will thus force hospitals to analyze and forecast future events with a great deal of care. It becomes important, then, to insure that health maintenance organizations and hospitals achieve and maintain a high degree of sophistication in all budgetary aspects. The capital equipment budget and techniques employed in its development and project selection will also become even of

greater importance.

As previously mentioned, one of the first health maintenance organizations in this nation was established at Elk City, Oklahoma's Community Hospital in the 1920's. The following discussion is the summary of an interview with a past Medical Director of that hospital. The interview was primarily concerned with the problems of planning for the acquisition of fixed assets and the utilization and pricing of services rendered by these assets.

The Nation's First Health Maintenance Organization

During the late 1920's a group of about 2,000 southwestern Oklahoma farm families met to establish a prepaid comprehensive health care plan at Elk City's Community Hospital. Originally, the dues were set at $30 per individual and $40 per family. This annual cost was established to prepay all needed medical services from prescriptions and eyeglasses to dentistry and surgery. The coverage was comprehensive and complete.[28] Since revenue was finite and not subject to a great deal of fluctuation with volume changes it was critically important for the hospital administration to carefully budget and plan each year's operations. The "profitability" of departments was determined through a system of collecting costs and revenues for each department by using a step down cost and revenue distribution analysis similar to those employed in Medicare reporting today. Dr. Sugarman indicated that if non-profitable departments were

necessary, then the subsidy required to operate it was carefully computed and budgeted from larger revenue producing units.

New projects were planned for and evaluated quite carefully. The cost of a new project (to include financing as well as operating costs for various levels of activity) would be isolated and a proposal would be prepared depicting the benefits and costs of the recommended course of action as well as the necessary impact upon the annual membership fee structure. This summary would then be submitted to a controlling committee representing the subscribing membership who would either vote for or turn down the project. In this manner, the clientele of the health maintenance organization could determine what services it would receive and what costs it would pay for those services in advance. Sugarman cites as an example Elk City's fine polio clinic that was developed in the early 1950's in response to the epidemics of polio then present. The iron lungs and other apparatus were the only polio treatment equipment between Amarillo, Texas, and Oklahoma City, Oklahoma.[29] The subscribing families determined that it was in their best interest to provide this service and agreed to underwrite the cost of this equipment fully in their annual fess. Dr. Sugarman stresses that no federal, state, or local funds, save research grants, were employed or given to the hospital. Indeed, the institution was entirely self-supporting from the revenue provided by its

subscriptions. All operating costs as well as physicians' salaries were paid from those revenues.

One additional fault ascribed a prepaid system of health care involves the fear that if a physician's income is fixed then a reduction of the quality of care rendered is a dangerous possibility. Writing in 1954, Dr. William Featherton of Elk City's Community Hospital refutes this by stating that professional ethics, increased opportunities for consultation, freedom from economic considerations of patient care, and the fact that under a prepaid plan physicians are actually rewarded for the aggressive practice of preventive medicine all act to prohibit a reduction of professional standards.[30]

The compelling point to be understood in the Elk City example is that the local community was free to determine the standard of health care and were found to be intimately cognizant of the performances and characteristics of costs in their institution so as to facilitate the highest provision of care at the least cost.

While it is recognized that a nationally financed and administered program of health care contains many additional problems, it is also evident that the concept of a health maintenance organization involving prepayment for services contains many potentially useful incentives for the professional practice of medicine at its most efficient and effective level.

A recent article further emphasizes Dr. Sugarman's recollection by stating:

> Financing is and will continue to be the key difference in the new HMO types of organizations and is where the most significant differences will be noticed. The financial manager of the HMO organization will make financial decisions in terms of future profit potential rather than protecting and recovering past and sunk investments. The first concern will be an improvement in quality service but the fiscal soundness will be a necessary thrust using sound investment criteria.[31]

Perhaps the most beneficial effect of the health maintenance organization concept for stimulating additional financial planning (and presumably movement toward an optimal allocation of resources) is the requirement that managers look to the future in evaluating expansion and replacement proposals. However, it must be recognized that there are several other proposed systems of reimbursement designed to stimulate greater planning and efficiency in the health care delivery system. The following section of this chapter examines selected proposals to determine what incentives for efficiency they may contain.

Cost Control Factors of Hospital Reimbursement Plans

Introduction

The federal government has, by implication, indicated that, at least to certain segments of the population, medical and hospital care is a right and not a privilege.[32] The basis for this position lies in the postulate that an individual's health is an item of property, personal to that individual.

Thus, it is incumbant upon the government to protect the property of its constituents.[33] Medicare has effectively guaranteed adequate medical attention to many individuals who could not previously have obtained needed care. When the law first went into effect it applied to approximately "19 million persons and (was) growing every year."[34] It is not the purpose of this study to determine whether this philosophy of the government is valid or not. Rather, this section is designed to point out several alleged weaknesses of the present cost reimbursement plan of medicare and to suggest alternative schemes that would apparently work to eliminate such deficiencies, while not disturbing the beneficial strengths of Medicare. The relationship of the various types of hospital costs and their performances to these present and new plans for cost reimbursement will be seen to be extremely close and important.

Hospital care has constantly improved and become more sophisticated and costly since the time of the first hospitals which were nothing more than places for dying.[35] The advent of modern surgical techniques, other diagnostic treatment, medical refinements, and the increased use of hospitals as teaching devices have all contributed to this fact. However, due to the fact that many hospitals are and have been non-profit in nature, the professional accountant has for too long ignored to a great extent the financial information needs of hospitals.[36] When these circumstances

were coupled with the reporting and reimbursement requirements of Medicare many problems arose that are only currently being resolved. Improved reporting and auditing practices, better understanding of hospital costs and their characteristics, and longer experience in meeting Medicare requirements have all been instrumental in the progress that has been achieved. However, much remains to be done in finally achieving the economically efficient operation of hospitals while maintaining excellent health care standards. These must remain the basic criteria of acceptable health care plans.

Present Government Reimbursement--Medicare

Medicare was signed into law on July 30, 1965, and went into operation on July 1, 1966.[37] The time allowed between the adoption of the concept and its implementation was extremely short and many problems were unexpectedly confronted by hospitals. A great deal of disorganization and chaos resulted in the early years of Medicare as hospitals attempted to adapt to the new reporting requirements.

Medicare has had a tremendous impact upon the hospital industry. One important fact associated with Medicare patients involves their length of stay. The average hospital stay for Medicare patients during fiscal 1967 was 17 days.[38] The principal effect of this longer stay was to "reduce the ability of the hospital to produce income needed to support its overall operations."[39] This is principally because greater usage of ancillary services occurs during the first few days

of typical hospital stays and thus greater revenue is generated during the earlier period of the stay. Older patients generally require longer convalescing periods than others. Since Medicare encouraged older patients to seek medical care more frequently the result has been a shift in the patient mix comprising occupancy statistics. This in turn has a detrimental effect upon the absorption characteristics of fixed costs per unit. For example, longer hospital stays with occupancy remaining constant will reduce patient turnover. Therefore, while longer stays tend to reduce daily revenue, they also provide for less utilization of ancillary facilities resulting in a necessary higher absorption of fixed costs per unit. Another aspect of the problem lies in the provision for retroactive payment of any cost increases over the past year. During the year, hospitals bill Medicare based upon costs of the preceding year, then, at the end of the year, the actual costs of the year in question are accumulated and hospitals receive an adjustment reimbursement based upon present costs. As one author states,

> It is intended that actual costs of each provider will be paid, recognizing that they will vary markedly from one institution to another. "Reasonable cost" means both direct and indirect costs, including stand-by costs, but operating costs not related to patient care are not allowable.[40]

One can thus see that "reasonable costs" is not established by a precisely defined structure. Rather, it is the result of a process of negotiation and argument. It is probably fortunate that this is the method of application adopted.

As Somers and Somers state:

> In a free economy, government decisions must find an equilibrium between abstract justice and operational feasibility. The government is a powerful buyer, but the sellers are free men and free institutions, who must come away from the deliberations reasonably satisfied that they have been dealt with fairly if the program is to operate with their necessary consent and cooperation.[41]

However, it would appear that some possible additional incentives for diseconomy have been embodied, although unintentionally, in the law that is Medicare. Besides the basic impact that an older overall mix of patients has had on hospitals' cost allocation and absorption practices, Medicare has provided little incentive to control costs. Medicare has essentially told hospital administrators and boards that all of your reasonable costs will be reimbursed so don't be too concerned about controlling or precisely budgeting them. Regardless of the percent of utilization of equipment or facilities Medicare will reimburse the actual cost (to include depreciation and interest) of holding that equipment. One author cites the case

> . . . of a Boston hospital which "purchased expensive equipment to perform exotic tests that could easily have been performed at one of the big Boston teaching hospitals (and had been for years). But to the recommending pathologist the additional test capability definitely meant higher income.[42]

The hospital did not particularly object since it would be reimbursed for much of the cost as a result of third party reimbursements based upon actual cost. Somers and Somers also point out,.

> There is nothing in the law to prevent a doctor from raising his "customary" fees. "Prevailing" fees took a sharp jump in 1966 and are continuing to advance. Doctors explain that in the past they had made only token charges to the aged. Now that they are to be charged like everybody else, the fees are, of course, higher.[43]

"The fact is that the medical economy upon which Medicare intruded does not provide the built-in protections of a competitive marketplace. Moreover, even a normal competitive market would be unbalanced by so massive a purchaser."[44]

However, it must also be noted that the Medicare formula typically insists upon a discount rate for unallowed costs which runs from about 8 percent to 15 percent of total costs.[45] Since the appeals mechanisms allowed under Medicare regulations are somewhat limited and hospitals earn only approximately 5 percent above costs it is obvious that for a practical matter they are not currently being fully reimbursed for their services. Thus, hospitals are constantly forced to select courses of action that insure short-term survival. Planning for long-term projects and operations is mitigated against somewhat by their preoccupation with problems such as cash flow and allowable cost determinations of a rapidly changing environment.

Therefore, the purpose of suggesting modifications to the present Medicare structure for financing purposes would seem to take the form of attempting to provide incentives, for cost control and good firm adequate budgeting procedures. The following section of this chapter is designed to present some of these benefits that may be derived under

the various concepts of prospective reimbursement.

Potential Alternatives

Several alterations of reimbursement methods have been suggested recently. The establishment of inclusive per diem rates for reimbursement have received strong support in many quarters. In essence inclusive rate charging systems provides for a broad averaging of charges for different services so that much of the detailed charging procedures can be omitted. This will result in significant savings of administrative and clerical costs and time.[46] The per diem rate would be so constructed as to distinguish among patients based upon length of stay, type of accommodation, use of ancillary services, and various discretionary items.[47] Opponents of these changes imply that under such a system many patients would be charged (by the inclusive rate) for services they did not receive. They also feel that inefficiency could result since without itemization of charges, it would be difficult to audit performance.[48] However, it should be noted that only the revenue side of the detail would be deleted. Costs could still be collected and analyzed with reference to various activity levels.

A second concept of an incentive reimbursement plan may be referred to as set amount or negotiated charge reimbursement. This method is similar to the inclusive rate method in that the plan currently contemplates a policy of requiring hospitals to live completely and without alteration

with negotiated reimbursement rate. Under this plan, third party payers agree to reimburse hospitals for various services at a set rate. 'Any deviation in expenditure from this fixed amount is borne or reaped by the hospital."[49]

Another method of incentive reimbursement is commonly referred to as target amount reimbursement. While the inclusive rate method would appear to reduce substantially much paper work and clerical costs while providing cost control incentives, target amount reimbursement recognizes the need for and allows greater flexibility in cost projection.[50] Hospitals are still required to set up projected cost estimates that are subject to negotiation before acceptance, however,

> increases in the cost of materials and equipment, sudden increases in wages caused by external influences, special taxes, and any other cost increases beyond the control of the hospital may be added to the approved reimbursement rate.[51]

Then, if hospitals spend less than this adjusted amount they will receive a percentage of the savings in the form of a bonus for efficient operation.

In each of these concepts it is important that a hospital not be penalized for successful efficient operation. In other words, rates should not be automatically reduced when a hospital manages to operate at lower costs than those negotiated. While it may be true that a standard is excessively high, great care should be exercised in altering the reimbursement rate downward. As one author stated:

> If the base is continuously reduced, eventually there would be no bonuses forthcoming to an efficiently run hospital. This, in turn, would discourage cost reduction and cause costs to rise to the point where, some years later, incentives would again be gained by reducing costs. On the other hand, if hospitals can continually look forward to bonuses as a result of efficient management, there is a powerful incentive to maintain low costs.[52]

However, another author points out: "If the target is set too high, the increased payments to hospitals may be very large and may provide rewards where no special achievements have occurred."[53]

Alternate Plans

At this point, it would appear beneficial to examine some experiments in various methods of prospective reimbursement plans. In 1970, Alabama Blue Cross had initiated a plan whereby a projected rate was established based upon the previous year's cost increased by an average percentage increase of all Alabama Blue Cross hospitals. If the hospital's cost plus 5% is less than the amount indicated by the projected rate, the hospital receives a bonus equal to 50% of the difference. If the hospital's cost plus 5% is greater than the target rate then the hospital is penalized to the extent of 50% of the difference, but the penalty cannot exceed the amount of the 5% plus factor unless the occupancy rate of the hospital was less than 50% for the year.[54]

Indiana Blue Cross sets its rates for hospitals prospectively and then allows hospitals to request increases in charges from a rate review committee. The committee

studies background information such as specific service mixes, length of stay patterns, and other factors and renders a decision. The hospital may resubmit its request if it disagrees with the decision. If the hospital fails to win an exception then it must bear the entire cost of failing to operate within the budgeting constraint of the reimbursement rate.[55]

The New Jersey insurance commissioner now sets a tentative per diem rate ceiling for all hospitals in the state contracting with Blue Cross. If a hospital anticipates costs greater than the ceiling allows, it may go through a budget review procedure and possibly get approval of rates in advance. If the hospital's actual costs exceed the approved rates, the hospital may request a retroactive review by the commissioner to determine if its cost excesses were justified. Thus, the amount of the excess cost will be shared as the commissioner rules subject to an appeal procedure.[56]

Finally, the Associated Hospital Service of New York City has instituted a prospective reimbursement formula based on: "Operating cost, including the prior years' audited costs; a percentage representing the estimated increase in the current year as compared with the prior year, and a percentage for allowed profit."[57]

However, the plan will not reimburse a hospital for "excess costs resulting from under utilized services if such

services were available elsewhere in the hospital's locality."[58] In this manner, overexpansion for less than rational economic and medicinal needs will be suppressed, thus encouraging efficiency and more appropriate resource allocation. In regard to expansion under the New York plan,

> . . . a hospital would have the option of receiving payment for depreciation of buildings and fixed equipment or of having a payment made to a pooled funds. If its funds go into the pool it would be eligible for low interest loans from the fund.[59]

The important parts of these concepts deal, however, with the pre-determination of reimbursement charges. Under prospective reimbursement plans hospitals would estimate activity and costs prior to beginning a given operating year. These costs would then be related to the level of activity and specific reimbursement rates would be determined for various services. Once these reimbursement rates were accepted by both hospital and administrative agency then the hospital would be assured of receiving those amounts regardless of the costs incurred. Hospitals could thus reflect a profit or a loss from Medicare activity and the normal profit and loss incentives so familiar to most businessmen could be at least partially established in hospitals.

A thorough knowledge of costs and cost performance under varying levels of activity is extremely critical to hospitals subject to prospective reimbursement. Since, as previously discussed, most hospital costs are fixed costs the need for accurate estimates of activity levels is also

extremely important. The precise characteristics and performance of all the various costs previously discussed must be accurately associated with planned activity levels if losses are to be avoided, however. Managements of hospitals will be required to become much more familiar with the cost structures of their hospitals if they are to successfully apply the concepts of prospective reimbursement. This in itself should lead to a better understanding of costs by management and result in more efficient operations.

Some important questions have arisen as to how the rates will be established. One author states:

> Some visualize it as a simple process consisting of two-party negotiation of an increase in an average per diem rate with each party prepared independently with whatever information he considers significant. Others see it as a very complex process involving classification of hospitals with maximums determined by application of a tolerance percentage related to mean costs; development of appropriate economic indices to which increases would be tied, and a projection of a hospital's costs based on a trend analysis of its past and current costs.[60]

Most probably some form of the second method will be adopted since reimbursing agencies will wish to understand and audit the composition of the rates in detail. This is almost certain to be true in the early years of such plans; however, a more general per diem rate may be acceptable after initial programs have been accepted by both parties after somewhat exhaustive analysis. In any event, it seems certain, that the adoption of any prospective reimbursement plan will require the managements of hospitals to become much more

familiar with the cost characteristics of the operations of their hospitals.

Summary

The medical care industry is currently facing a great deal of criticism and controversy as a result of the rapidly increasing costs of health services. Therefore it seems incumbant upon the industry to carefully analyze and budget the various elements of total costs. The role of third party reimbursement agents also has an important effect upon the operations of hospitals.

Current Medicare regulations specify that hospitals will be reimbursed for all reasonable costs associated with covered patient care. Medicare has been presented as not being as conducive to efficient cost control as it could be. In fact incentives for diseconomy have been noted whereby under existing regulations, hospitals are in fact encouraged to operate in a less than efficient manner. Therefore, various alternative methods of reimbursement have been suggested to provide the needed incentives for budgeting and cost controls.

The concept of prospective reimbursement requires hospitals to estimate the level of activity and total cost to negotiate a reimbursement rate prior to the hospital's year of operation. Thus, once a reimbursement rate is accepted, the hospital can by efficient operation reduce costs and still be reimbursed at the predetermined rate.

This is the incentive for efficiency that is currently lacking in the Medicare reimbursement scheme. If this concept of prospective reimbursement was adopted, perhaps major advances could be made in efficient operations techniques.

In its report on a bill dealing with prospective reimbursement, the House Ways and Means Committee stated:

> Your committee believes that payment determined on a prospective basis offers the promise of encouraging institutional policymakers and managers, through positive financial incentives, as well as the risk of possible loss inherent in the method, to plan, innovate and generally to manage effectively in order to achieve greater financial reward for the provider as well as a lower total cost to the programs involved.[61]

The penalties should be severe enough to encourage hospitals to avoid them; however, they should not be so harsh as to result in disorder, unplanned cutbacks and other disruptive phenomena.

Footnotes

[1]"Group Health Plan Measure Signed into Law by Nixon," Sunday Oklahoman (Oklahoma City), Dec. 30, 1973, p. 22. (Reference to article in a daily paper.)

[2]Ibid.

[3]Ibid.

[4]Stuart Auerbach, "The Health Insurance Struggle," Washington Post, April 11, 1974, p. A16.

[5]Ibid.

[6]Jay J. Winston, "Imposing Controls on Doctors," Wall Street Journal, Dec. 6, 1973, p. 12. (Reference to article in a daily paper.)

[7]"Review Abandoned," Oklahoma City Times, Feb. 8, 1974, p. 2. (Reference to article in a daily paper.)

[8]Carl I. Flath, "Comprehensive Health Planning," paper presented to the Hospital Financial Management Association at Ohio State University, August, 1973, p. 3.

[9]Ibid., p. 6.

[10]Ibid., p. 7.

[11]Ibid., p. 12.

[12]_____, "Prospective Payment Experiment for Oklahoma Hospitals" (Tulsa: The Oklahoma Blue Cross Plan), p. 3.

[13]Ibid., p. 5.

[14]Ibid., p. 15.

[15]Committee for Economic Development, Building a National Health-Care System (New York: Committee for Economic Development, 1973), p. 49.

[16]Ibid.

[17]Ibid., p. 61.

[18]J. B. Hall, Financial Vice-President of Oklahoma Blue Cross and Blue Shield, personal interview, Oct. 4, 1973.

[19]Committee for Economic Development, Building a National Health-Care System, p. 59.

[20]Ibid.

[21]Ann Hesler, Controller of Grand Valley Hospital, Pryor, Oklahoma, letter written to Clem McSpadden, M.C., Oklahoma 2d District, Feb., 1974.

[22]_____, "Design Innovations," Hospitals Journal of the American Hospital Association, Feb., 1970, p. 62.

[23]Ibid., p. 59.

[24]Robert D. Schultz, "Suspended Encappulation," Hospitals Journal of the American Hospital Association, Feb., 1970, p. 25.

[25]Lorraine Smith, "Dirt Wall Here Today, There Tomorrow," Hospitals Journal of the American Hospital Association, March, 1970, p. 105.

[26]Ibid.

[27]Ibid.

[28]Dr. Milton Sugarman, personal interview, March 29, 1974.

[29]Ibid.

[30]William M. Featherston, "I'm for Co-op Medicine!," reprint grom Medical Economics, March, 1954, p. 6.

[31]Irwin M. Jarrett, "HMO = people + organization + financing + risk," Hospital Financial Management, Jan., 1973, p. 10.

[32]Bapt. Memorial Hospital Feasibility Study, 1968, p. 24.

[33]Dr. Wyatt Mankin, Assistant Professor of Economics, University of Oklahoma, personal interview, April 6, 1974.

[34]Herman Miles Somers and Anne Somers, Medicare and the Hospitals Issues and Prospects (Washington, D.C.: The Brookings Ins., 1967), p. 256.

[35]William Freitag, "Medicare and the Hospital Revolution," The Journal of Accountancy (January, 1969), p. 40.

[36]Richard A. Grundy, "Hospital Accounting," Management Accounting (March, 1971), p. 45.

[37]Somers and Somers, Medicare and the Hospitals Issues and Prospects, p. 1.

[38]Ibid., p. 39.

[39]Ibid., p. 39.

[40]Ibid., p. 162.

[41]Ibid., p. 187.

[42]Ray G. Wasyluka, "New Blood for Tired Hospitals," Harvard Business Review (November-December, 1970), p. 40.

[43]Somers and Somers, Medicare and the Hospitals Issues and Prospects, p. 260.

[44]Ibid., p. 257.

[45]Dr. Travis Goggans, personal interview, April 16, 1974.

[46]Joseph G. Tonascia, "Why a Per Diem Rate Makes Sense," Hospital Financial Management (July, 1971), p. 13.

[47]The Boston Consulting Group, Inc., Reimbursing Hospitals on Inclusive Rates (Boston: National Center for Health Services Research and Development, 1970), p. xii.

[48]Ibid., p. 5.

[49]C. Patrick Hardwick and Harvey Wolfe, "Incentive Reimbursement," Hospitals, J.A.H.A. (September, 1970), p. 46.

[50]Ibid.

[51]Ibid.

[52]Hardwick and Wolfe, "Incentive Reimbursement," p. 47.

[53]Irwin Wokstein, "Incentive Reimbursement Plans Offer a Variety of Approaches to Cost Control," Hospitals, J.A.H.A. (June, 1969), p. 66.

[54]Glenn J. Martin, "Incentives for Economy," Hospitals, J.A.H.A. (October, 1971), p. 54.

[55]Glenn J. Martin, "What Experiments in Prospective Reimbursement Are Teaching Providers, Agencies, Third Parties" (November, 1970) p. 4.

[56]Ibid.

[57]Ibid.

[58]Ibid.

[59] *Ibid.*

[60] *Ibid.*, p. 6.

[61] *Ibid.*, p. 3.

CHAPTER IV

RESEARCH METHODOLOGY

Introduction

The previous chapters have presented the health care industry as one facing profound and fundamental change. As evidenced by the analysis of literature, alterations will probably take the form of some method of prospective rate setting. Many writers have hypothesized that only prospective budgeting will provide the necessary incentives for cost control and efficient operations. Indeed, the 1973 experiment by Blue Cross and Blue Shield of Oklahoma involving 12 state hospitals provides support for this premise.[1] However, in order for such concepts and programs to be effective hospitals must be capable of responding adequately to the planning and forecasting requirements embodied in the several plans. Therefore, an examination of the ability of hospital administrations to budget, analyze costs, and evaluate projects is deemed extremely relevant and important. If the effects of previous profound changes such as Medicare and Medicaid could be isolated as to their effect upon the operations of hospitals, then greater understanding as to the responsive capabilities of such institutions could be obtained. If hospitals have altered their methods of planning

and operation in response to Medicare and Medicaid, then evidence exists that indicates hospitals will also respond to other incentives.

A second and related problem involves what incentives and programs hospitals may be capable of responding to in a satisfactory manner. If both of these questions could be resolved, then insight will be gained that will facilitate a meaningful predetermination and forecast of the success of any potential prospective reimbursement proposal. Hopefully, this could enhance the design of provisions and implementation of such programs for a more efficient transitional period of adoption. By isolating the effects of Medicare and Medicaid to allow broad causal statements greater understanding may be achieved as to what programs or incentives would succeed or fail in the future. Perhaps, costly trial and error mistakes could be reduced resulting in fewer dysfunctional influences superimposed upon the health care delivery system.

In order to establish a segment of this problem appearing feasible to resolve within time and financial constraints while representing a significant original contribution, several research steps have been performed. A summary of descriptive measures isolated is included in the next section of this chapter.

State and National Demographic Factors

Level of Medicare and Medicaid Penetration

Prior to 1966 the federal government had no significant impact upon the revenue earned by general, not-for-profit,

non-Federal, short-term hospitals. However, the advent of Medicare and Medicaid has altered this significantly. This statement is not intended to imply that there has been a corresponding change in the mix of patients admitted and treated. Although revenue penetration statistics are readily available for years after the introduction of Medicare and Medicaid, no such statistics were captured on a broad nation or statewide basis prior to 1966 that this writer has been able to secure. However, at the very least, Medicare and Medicaid has significantly altered the manner in which hospitals were paid for services rendered. From a highly fragmented group of private payors and third party reimbursers prior to 1966, Medicare now comprises a substantial single third party payor which has been empowered to promulgate standards, rules, and regulations. Medicare also poses the latent power of audit to confirm compliance and good faith. The following table displays the percent of revenue penetration at the end of 1972 for the listed types of service providors and reimbursers.

TABLE 1

MEDICARE REIMBURSEMENT
1972 DATA

Hospital Size	U.S. Hospitals[2]	Oklahoma Hospitals[3]
Less Than 100 Beds	37.90	45.70
Greater Than 100 Beds	29.54	29.31
All Hospitals	33.72	33.51
	Simple Average	Weighted Average

Thus, it can be seen that Medicare and Medicaid considerations have reached such a magnitude so as to potentially exercise a tremendous influence upon the operation of hospitals. The Baptist Medical Center of Oklahoma City, Oklahoma, states in a recent feasibility study that,

> . . . two amendments to the Social Security Act were passed in 1965 and became effective in 1966 that have had a pronounced effect on organization, financing of operating and capital costs, staffing, planning, and maintenance of patient service standards.[4]

This report goes on to further assert that,

> . . . the Medicare amendments of 1966, perhaps more than any other single factor, have caused hospitals to examine closely the costs of providing hospital care and to develop methods that will result in more efficient management of facilities and personnel.[5]

If it is determined that the advent of Medicare has caused hospitals to operate more efficiently, then perhaps some inferences may be valid as to the impact of proposed future programs.

Tenure of Hospital Administrators

In order for any test of the impact of Medicare to be valid it was deemed necessary for the same basic administration to be present in the hospitals included in the sample during both periods of time. It was thus important to ascertain if this was an unreasonably rigid requirement.

One should also note that even though hospital administrators may resign, the hospital board continues without interruption. Hospital boards are typically perpetual in that members are appointed on a staggered basis. Thus, the methods and philosophies of a hospital board may remain basically unaltered over a long period of time. In this respect, statistics regarding the tenure requirement of 7 years was representative of all hospitals. These data are presented in the table below.

TABLE 2

OKLAHOMA HOSPITAL ADMINISTRATORS[6]
1972 DATA

Hospital Size	Low	Average	High
Less Than 100	3 months	4.7 years	18.0 years
Greater Than 100	0 months	6.2 years	22.0 years
Average All Hospitals		5.5 years	

While it was felt that this relationship was beneficial in that great freedom was afforded in selecting qualified hospitals, it would not have been overly critical if tenure statistics had revealed higher rates of attrition. A descriptive sample of hospitals containing appropriate demographic characteristics would provide adequate evidence regardless of population characteristics regarding administration tenure. The study is an attempt to describe the

behavioral implications of the advent of Medicare and Medicaid upon those individuals in decision making positions subject to the rules and regulations of the Medicare cost formula. Thus, the requirement to insist upon singular tenure at one institution was designed more to remove other demographic variables, such as environmental change or education, than to imply that this length of tenure was necessarily representative of the sample.

Descriptive Sample

The various quantitative descriptions and characteristics of the health care delivery system for the United States and the State of Oklahoma were used as a basis for isolating an appropriate descriptive sample of hospitals for examination. Data and statistics were obtained from a variety of sources and combined to isolate a descriptive sample that would be as representative as possible to both hospitals in Oklahoma and hospitals across the entire United States.

Selected criteria, necessary for inclusion in the descriptive sample, included, in descending order of importance; administrative tenure, similarity of Medicare penetration levels as a percent of revenue, geographic location, and finally other demographic factors analyzed by individuals knowledgeable as to the characteristics of the several Oklahoma hospitals. All hospitals included in this descriptive sample are general, short-term, non-Federal, not for profit institutions in the state of Oklahoma. These factors will be

separately discussed in the following sections of this chapter and summarized as a complete descriptive sample.

Tenure Characteristics

Since this inquiry is concerned with comparing planning, budgeting, and acquisition techniques employed by hospitals prior to 1966 and during fiscal 1972, it was deemed necessary that the same administrations be present at both periods of time. It was felt that this would serve to hold constant many factors that would otherwise obscure any trends isolated as to cause and effect relationships. It has been noted that the average tenure for hospital administrators approximates 5 to 6 years; therefore, the requirement of a 7 year tenure was not deemed unrealistic. This position was further strengthened by data analysis that revealed the number of hospitals still retaining the same administrator during both periods of time.

Thirty-two of seventy hospitals, reporting as members of the Oklahoma Hospital Association with bed occupancy of less than 100 had the same administrator in 1966 as they did during fiscal 1972. Six of these hospitals were selected for personal interviews. Sixteen of thirty hospitals, reporting as members of the Oklahoma Hospital Association with bed occupancy of more than 100 had the same administrator in 1966 as they did in fiscal 1972. Six of these hospitals were selected for personal interview. This represents approximately a 25 percent sample of the hospitals qualifying under

this restriction and is deemed adequate to provide a representative cross-section of hospitals in Oklahoma.

Geographic Factors

Broad geographic range of the descriptive sample was deemed desirable to insure inclusion of any potential demographic factors at work in different parts of the state. An examination of large hospitals with occupancy capacity over 100 beds revealed the vast majority of these hospitals were in the two major cities of Oklahoma. Therefore, it was deemed necessary to include a large urban hospital from both Oklahoma City and Tulsa. The other four large hospitals were selected from cities that possessed the criteria of tenure and penetration included in this chapter.

The descriptive sample of six small hospitals with occupancy capacity of less than 100 beds was selected in much the same manner. All hospitals in the state that possessed the required tenure and penetration statistics were then arranged according to geographic location and selected, in consultation with Mr. Luttrell of the Norman Municipal Hospital, on these three bases.

The attached maps depict the locations of the hospitals selected in both groups of the descriptive sample. The first map depicts hospitals containing over 100 beds and the second map depicts hospitals containing fewer than 100 beds that were included in the descriptive sample.

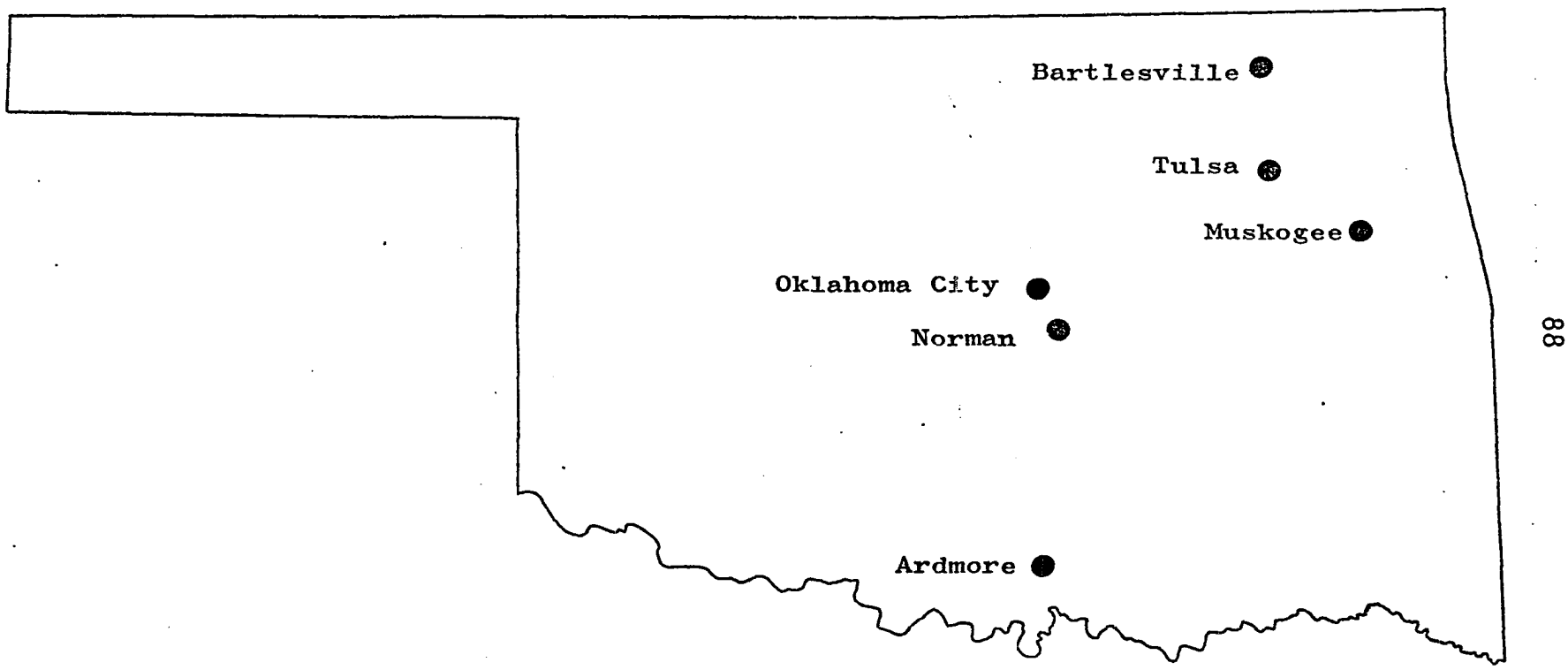

Figure 1. Geographic locations of sample hospitals with more than 100 beds.

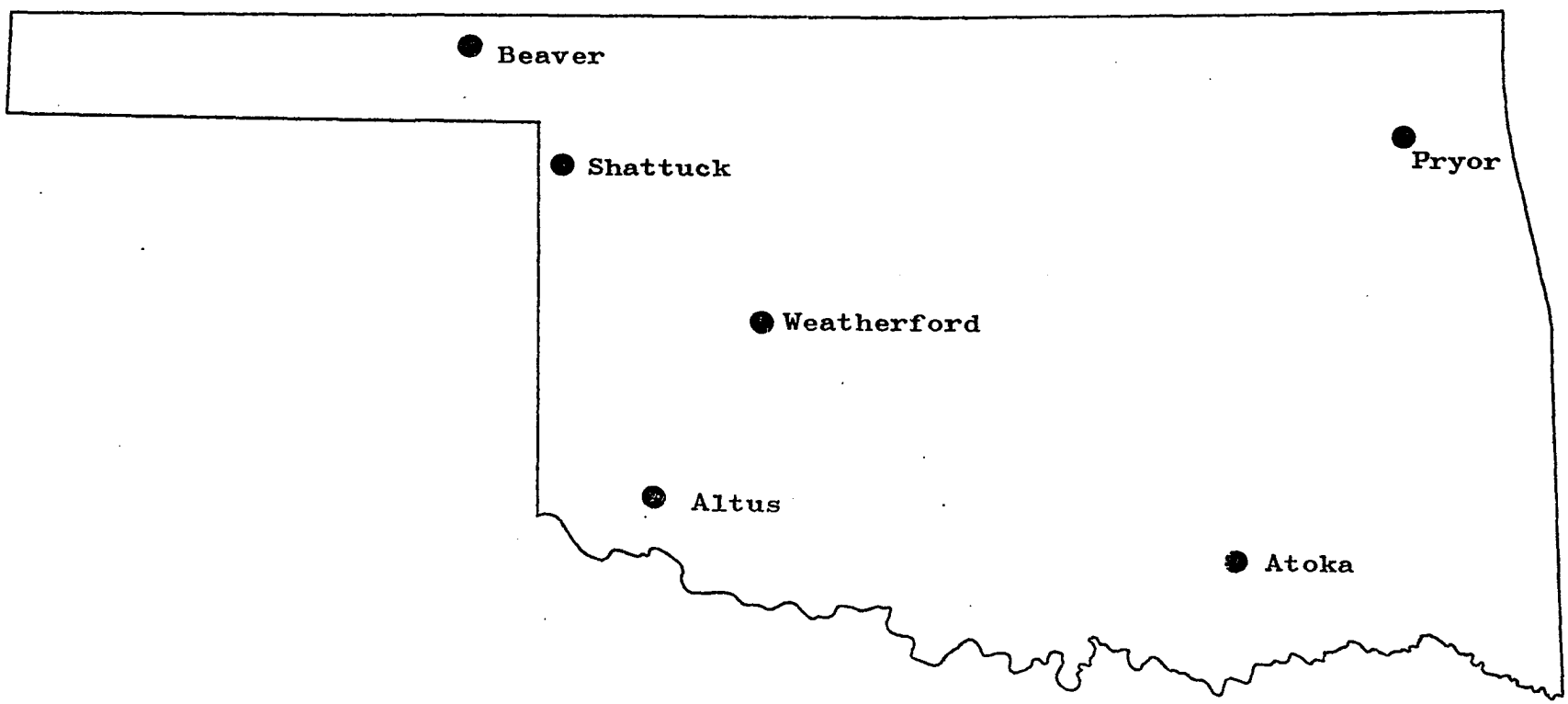

Figure 2. Geographic locations of sample hospitals with less than 100 beds.

Revenue Penetration Levels

Another important attribute of the sample selected was deemed to be a revenue penetration level for Medicare approaching, as closely as possible, the levels found at the state and national level. The following table displays the level of penetration of Medicare as a percent of revenue for selected hospitals with bed occupancy less than 100.

TABLE 3

SAMPLE MEDICARE REVENUE PENETRATION
SMALL HOSPITALS

Hospital	City	State Region	Medicare Penetration
Jackson County Hospital	Altus	S.W.	43.77%
Atoka Memorial Hospital	Atoka	S.E.	49.37%
Beaver County Mem. Hosp.	Beaver	N.W.	35.12%
Grand Valley Mem. Hosp.	Pryor	N.E.	50.12%
Newman Memorial Hospital	Shattuck	N.W.	35.64%
Weatherford Memorial Hosp.	Weatherford	W.	47.15%
Average for Sample			43.53%[7]

Reference to previously presented tabular data contained in Table 1 reveals close approximation of sample and population attributes in this respect.

The following table displays the level of penetration of Medicare as a percent of revenue for selected hospitals with bed occupancy greater than 100.

TABLE 4

SAMPLE MEDICARE REVENUE PENETRATION
LARGE HOSPITALS

Hospital	City	State Region	Medicare Penetration
Mem. Hosp. of Southern Oklahoma	Ardmore	S.C.	41.34%
Jane Phillips-Episcopal-Mem. Med. Cent.	Bartlesville	N.E.	31.48%
Muskogee Gen. Hospital	Muskogee	E.	41.35%
Norman Municipal Hosp.	Norman	C.	32.30%
Baptist Medical Center	Okla. City	C.	28.00%
Hillcrest Med. Center	Tulsa	N.E.	27.84%
Average for Sample			33.72%

The penetration percentage for the sample is influenced significantly by the inclusion of hospitals in Ardmore and Muskogee which are both urban institutions. However, it was deemed desirable to include these two hospitals to insure more complete geographic coverage of the state. These data may, once again, be compared with that contained in Table 1 presented earlier in this chapter.

Summary

A descriptive sample was isolated after establishing several criteria for inclusion in descending order of importance. The continuous tenure of hospital administrators during the period was deemed most critical of all sample characteristics. The level of Medicare penetration as a percent of revenue was then selected as an important sample

characteristic. Hospitals were then selected on a basis so as to insure adequate full geographic coverage of the state. Finally, Mr. Richard Luttrell, Administrator of Norman's Municipal Hospital,[9] furnished much relevant demographic data that aided in selecting "typical" hospitals for inclusion in the descriptive sample. The following section of this chapter will outline the methods employed in developing a questionnaire designed to adequately resolve the questions posed by the hypotheses.

Questionnaire Development

A list of relevant inquiries was developed to provide the basis for resolving the previously stated hypotheses. The questions were prepared following a review of specific areas of capital budgeting and planning contained in several references. As soon as a tentative set of questions had been established, four hospitals were contacted and administrators or controllers were personally interviewed to determine if any weaknesses existed in the questionnaire. As a result of these preliminary interviews several modifications were made in the questionnaire so as to enhance the value and relevance of the data obtained.

In its final form the questionnaire contains three major segments. The first portion deals with establishing the framework within which the capital expenditure decision was made before Medicare and during fiscal 1972. Questions were designed to establish what planning and review procedures were in use during the two periods of time under consideration.

The second portion of the questionnaire was designed to ascertain the specific evaluative techniques applied to capital items under consideration as to economic feasibility. This portion also inquired as to sources of financing and methods of asset service acquisition. The section was also concerned with both periods of time under scrutiny.

The final portion contained a summary and an analysis of the capability and desirability of administrations responding to future programs and incentives. The impact of Medicare is analyzed in this section. The complete final questionnaire is included in Appendix A.

Because of the nature of the study and the subject matter under consideration and the institutions being examined, personal interviews were deemed necessary. Each of the interviews was tape recorded to allow later analysis of responses. The questionnaire itself served as a rather rigorous framework for the interviews. However, discussion was encouraged and abeted for support and clarification of answers to the precise questions. In this manner cause and effect relationships were isolated for individual hospitals according to the specific circumstances existing in each situation. These relationships could then be compared and contrasted with those existing in other hospitals to detect and isolate trends and tendencies in the descriptive sample as a whole. The results and data obtained are analyzed in the following chapter.

Summary

This chapter has outlined the methods and procedures involved in developing the list of selected hospitals included in the descriptive sample and the questionnaire to be used in gathering data. A group of twelve hospitals was selected, six coming from the population of seventy hospitals with under 100 beds, and six coming from the population of thirty hospitals having over 100 beds. The hospitals selected possessed several common characteristics. The sample retained the same basic administrations, achieved similar Medicare penetration statistics, enhanced broad geographical range over the state, and possessed other minor demographic traits that supported the position that these hospitals were representative of the hospitals in the state of Oklahoma and the nation.

The questionnaire was developed from textbooks and other reference works and received a lengthy preliminary evaluation involving four of the hospitals that eventually were included in the descriptive sample selected. Many alterations and modifications were made in the questionnaire during its development as the four trial interviews with hospital personnel provided much guidance and knowledge.

The following chapter will analyze the data obtained from the interviews of the hospitals in the descriptive sample. This analysis is based upon the same progression of examination as embodied in the questionnaire. The

methodology utilized in defining, obtaining and analyzing the data was deemed sufficient to resolve the questions posed by the hypotheses.

Footnotes

[1]Personal Interview, J. B. Hall, Financial Vice-President, Oklahoma Blue Cross and Blue Shield.

[2]Fiscal 1971 Medicare Statistics, Unpublished, Latest available as per Ed David, Methods & Procedures Analyst, Bureau of Health Insurance, Medicare Department HEW, Telephone Interview.

[3]Fiscal 1971, Oklahoma Hospital Association Statistics, Unpublished, Telephone Interview, Jim Stansburger.

[4]Baptist Medical Center Feasibility Study, 1968, p. 22.

[5]Ibid., p. 25.

[6]Oklahoma Hospital Association, "Hospital Administrators Survey, March 1973," unpublished report of statistics.

[7]Oklahoma Hospital Association Working Papers, 1970--latest data available. Revenue penetration and utilization statistics, unpublished.

[8]Ibid.

[9]Personal Interview, Richard C. Luttrell, Administrator of Norman Municipal Hospital, February 6, 1974. Mr. Luttrell is an extremely knowledgeable individual in regard to Oklahoma Hospitals. He has served as President of the Oklahoma Hospital Association, member of the house of delegates of the American Hospital Association and a member of the Oklahoma Blue Cross and Blue Shield Board.

CHAPTER V

FINDINGS OF EMPIRICAL RESEARCH

Introduction

The methods and procedures utilized to isolate an appropriate descriptive sample and develop an adequate questionnaire designed to resolve the issues and questions raised in previous chapters were completed during February of 1974. Letters from Mr. Luttrell, on appropriate institutional stationery (Appendix B), were sent to each sample hospital to request their assistance. During March and April, after receiving their consent, the questionnaire was completed through the process of personal interviews at the several selected hospitals in the state of Oklahoma. The results of these interviews are tabulated in this chapter in accordance with the broad categories contained in the questionnaire, a copy of which is found in Appendix A. Each size group of hospitals is examined for trends, commonalities, and differences and is also compared and contrasted in detail with the other group of institutions. In this manner similar traits and characteristics as well as discrepancies may be observed both by individual group classifications and for the entire descriptive sample as well.

Comments by various administrators as well as specific question responses will be included where appropriate. This practice will facilitate the most beneficial use of the detailed conversational personal interviews which were tape recorded in full. The categories of the questionnaire are: (A) Framework of Capital Expenditure Planning, (B) Specific Evaluative Techniques, and (C) Impact of Medicare and Forecast of Responsive Ability

The first section of this chapter will consider the extent and growth of capital expenditure planning in hospitals as well as examine the related philosophies of administrators. Hospitals with under 100 beds are referred to as small hospitals, while hospitals containing more than 100 beds will be referred to as large hospitals.

Framework of Capital Expenditure Planning

The Capital Expenditure Amount and Philosophy of Budgeting

This section of the questionnaire was designed to define the framework in which capital expenditure decisions were made during both periods of time.

Questions 1 and 2 were designed to determine whether or not a capital budget existed and if so, what its purpose was during both periods of time. The following table depicts the extent of formal capital budget existence in the sample hospitals.

TABLE 5

SAMPLE HOSPITALS EMPLOYING CAPITAL BUDGETS

Hospitals	1966	1972
Under 100 Beds	1	5
Over 100 Beds	1	6
Total	2	11

When questioned regarding the adoption of a capital budget, only two hospitals (1 from each group) indicated that the primary motivation was provided by the passage of Public Law 92-603 which requires a 3 year capital budget. All administrators agreed that such planning enhanced the effectiveness and responsiveness of their institutions. One administrator indicated that his hospital had adopted a capital budget during 1967-68. He stated that capital budgeting and planning provided a "prudent, logical approach to the wise use of resources."[1]

Question 3 was included to determine if sufficient expenditures were made to warrant significant detailed planning and budgeting. Expenditures for sample hospitals for the two comparative periods of time are presented below.

TABLE 6

CAPITAL EXPENDITURES OF SAMPLE HOSPITALS

	Hospitals Under 100 Beds		Hospitals Over 100 Beds	
	1966	1972	1966	1972
Average	$ 26,937	$ 66,100	$174,573	$650,137
Range	$ 2,287-$125,146	$ 6,353-$189,295	$ 42,363-$500,000	$ 96,618-$1,861,068

Two of the large hospitals were engaged in significant expansion programs during 1972-73 and therefore the amounts reflected as capital expenditures are somewhat distorted. The administrators of these two hospitals were closely questioned to extract and isolate methods of evaluating and planning routine acquisitions from major expansionary programs. Since outside consultants were employed in both instances of expansion, this procedure was deemed feasible and was subsequently completed with satisfactory results.

In regard to questions 4, 5, and 6, hospital administrators indicated that the use and formality of capital budgeting methods and procedures have grown substantially during the period in question as reflected in Table 7.

TABLE 7

INCREASE IN THE USE OF CAPITAL EXPENDITURE ANALYSIS METHODS

Increase	Small Hospitals	Large Hospitals	All Hospitals
100%	0	0	0
75	0	2	2
50	3	4	7
25	2	0	2
0	1	0	1
	6	6	12

Question 5 was asked in the context of ongoing routine deliberations rather than major expansions. One administrator stated, in regard to this inquiry, "we have been more conscious of this need for planning since the introduction of Medicare and Medicaid."[2]

In addition, administrators were asked about the existence of any minimum project dollar level necessary prior to the application of detailed analysis. The following table reflects responses to Question 4.

TABLE 8

PROJECT COST LEVEL NECESSARY FOR SPECIFIC DETAILED ANALYSIS

Amount	Small Hospitals 1966	Small Hospitals 1972	Large Hospitals 1966	Large Hospitals 1972	All Hospitals 1966	All Hospitals 1972
Less than $500	3	4	0	0	3	4
$500-$1,000	0	2	3	4	3	6
$1,000-Over	3	0	3	2	6	2
Total	6	6	6	6	12	12

The administrators of small hospitals who indicated project costs of at least $1,000 were necessary in 1966 before detailed analysis was applied, also stated that only very large projects received any degree of sophisticated examination.

Question 6 was concerned with the length of time into the future administrations considered when planning capital needs. Once again, administrators were specifically requested not to consider extremely large expansionary planning when answering this question. Table 9 presents responses to this question which reflect similar results to those in Table 6.

TABLE 9

MAGNITUDE OF PROJECTION IN TIME FOR PLANNING

Years	Small Hospitals		Large Hospitals		All Hospitals	
	1966	1972	1966	1972	1966	1972
Less Than 1	4	0	2	0	6	0
1-2	2	4	4	3	6	7
2-3	0	2	0	1	0	3
More Than 3	0	0	0	2	0	2
Total	6	6	6	6	12	12

These results appear to generally agree and support the results of Question 1 summarized in Table 6. As before, extremely large expansionary programs involving possible outside consultative expertise were removed from consideration during the interviews with administrators.

The last part of the first section of the questionnaire was devoted to questioning the administrators regarding the type of project considered and the administrative framework under which they functioned. Questions 7, 8, and 9 were designed to resolve these considerations. This summary reflects that there has not been a strong shift in the mix of projects by object category since 1966. The following table reflects the primary objective of capital expenditures for the sample during both periods of time:

TABLE 10

PRIMARY EXPENDITURE OBJECT OF CAPITAL EXPENDITURES

Category	Small Hospitals 1966	Small Hospitals 1972	Large Hospitals 1966	Large Hospitals 1972	All Hospitals 1966	All Hospitals 1972
Equipment Addition	3	2	4	4	7	6
Equipment Replacement	0	2	1	1	1	3
Building Addition	2	1	0	0	2	1
Building Repair & Renovation	1	1	1	1	2	2
Total	6	6	6	6	12	12

Review and Approval Process

Questions 8 and 9 were also related to the framework of planning and evaluating. All hospitals in both size groups during both periods of time (except for one of the small hospitals) indicated that the primary responsibility for evaluating capital projects and developing capital expenditure programs belonged to the hospital administrator and his staff. The one small hospital administrator indicated that in 1966 a standing permanent committee existed to evaluate in some detail all capital expenditures; however, since that time the committee had been dissolved and the function of evaluating capital

projects was delegated to the administrator. All hospital administrators of both size groups also indicated that the functions of final review and approval of capital expenditures was retained by the hospital board of directors or similar body during both periods of time.

Summary of Framework of Capital Expenditure Planning

An analysis of the data contained in the preceding tables and discussions supports a contention that hospitals have increased capital expenditure budgeting and planning efforts. Tables 6, 7, and 9 indicate that since 1966 a majority of hospitals in the sample have adopted more formal capital budgets, increased their efforts in the area of capital expenditure analysis, and in general, have engaged in planning for longer periods of time. Table 8 indicates that, to some extent, hospital administrations have begun analyzing proposed projects of lower cost than in 1966. Small hospitals reflect the largest change in this respect, while large hospitals reflect only minor changes.

Table 10 reflects that neither size sample group experienced a radical change in the mix of projects considered. However, it should be noted that, once again, small hospitals appear to be somewhat more responsive in

this respect. Questions 8 and 9 reveal virtually no change in the evaluation, decision making, and review functions of hospital administrations in relation to capital budgeting and planning.

The next section of the questionnaire was designed to determine what analytical techniques were applied to the capital expenditure decision during both periods of time. The questionnaire is further intended to isolate any advances in the sophistication of techniques applied during the time frame in question.

Specific Evaluative Techniques

Techniques Employed

The first portion of this section of the questionnaire isolates precise capital budgeting methods and tools used by administrators of sample hospitals during both periods of time. Question 1 inquires as to what specific methods of project evaluation are used in an ongoing routine manner. During 1966, three of the small and one of the large hospital administrators indicated that no formal technique of evaluation was performed upon projects. The other three small hospitals and five large ones indicated, through their administrator, that a cash flow-payback method of evaluation was used during 1966. However, all hospital administrators from both size groups indicated that during 1972 a payback method of evaluating proposed capital expenditures had been adopted. Further questions

revealed that a concern with adequate cash flow and payback period analysis was the primary concern with all hospitals interviewed. It must also be noted that each hospital emphatically relegated the economic concerns of asset acquisition to a position below a concern for community health care. The first step in the evaluation of a proposed asset directly associated with diagnosis or treatment was, without exception, an analysis of the potential impact upon patient care and well being. However, all administrators readily agreed that an analysis of the financial aspects of the proposal was a requisite second step. Another phenomenon to be observed was that four of the five large hospitals and all three of the small hospitals that used a cash flow payback period method of analysis in 1966 indicated that since that time more sophistication and care has been accorded the development of relevant data included in the decision. These same hospitals also indicated that such analysis was utilized on a significantly more frequent basis during 1972 than in 1966.

Questions 2 and 3 were designed to determine if hospitals evaluate, to any extent, the time value of money by the use of discounted cash flow concepts. Since such methods have achieved common use and acceptance in industrial and commercial enterprises organized as profit seeking entities such an inquiry was deemed essential.[3] The use of such time discounted methods of cash flow analysis

as net present value or internal rate of return computations facilitates ranking of alternative capital investments according to economic desirability. These methods are much more powerful tools of analysis than time unadjusted computations such as simple rate of return or payback period analysis.[4] However, it is recognized that many profound, complex problems of application arise when the institution involved is organized as a not for profit enterprise in which an objective such as community health care must take precedence many times over purely economic considerations. Although several of the hospital administrators acknowledged conceptual understanding of the principles involved in present value techniques, not a single hospital in either size group attempted to perform significant present value analysis during either period of time under consideration. The absence of the application of such techniques was typically explained by the administrator as a result of the factors previously discussed in this paragraph.

Cost Analysis and Obsolescence

Questions 4 through 12 were designed to isolate the specific procedure, if any, utilized to evaluate alternative capital expenditure proposals from the standpoints of cost analysis, project life, and service pricing. The following table reflects the results of these inquiries.

TABLE 11

SPECIFIC INDIVIDUAL ASSET ACQUISITION DELIBERATIONS UTILIZED BY SAMPLE HOSPITALS

Question	Small Hospitals 1966	Small Hospitals 1972	Large Hospitals 1966	Large Hospitals 1972	All Hospitals 1966	All Hospitals 1972
Hospitals quantifying & including project life in decision	4	6	4	6	8	12
Hospitals performing detailed utilization studies prior to acquisition	2	6	3	6	5	12
Hospitals forecasting variable costs	3	6	3	6	6	12
Hospitals segregating fixed financing & fixed operating costs	2	5	3	6	5	11
Hospitals analyzing contribution margin and cash flow	2	6	3	6	5	12
Hospitals applying utilization and contribution margin to assist pricing	2	6	3	6	5	12

This table indicates a significant increase in the number of hospitals in the sample that have increased the sophistication of cost analysis and planning in regard to asset acquisition deliberations. Obviously, these questions are closely related. Each succeeding step of the analysis logically follows an earlier one. Therefore, the extremely high degree of correlation of change between time periods and between the several questions is

not surprising. When a hospital adopted cost analysis and cash flow planning, then virtually all of the issues included in Table 11 above were necessary for complete analysis and planning. In other words, for a hospital to only partially adopt the procedures enumerated in Table 11 would be illogical. Little benefit would be gained from an incomplete analysis ; therefore, the comprehensive adoption of the various aspects of cash flow and break-even analysis appears logical. Thus, it is observed that the sample institutions have increased the effort and expertise allocated to decisions involving the evaluation of proposed capital expenditure projects.

Question 6 was specifically designed to explore the extent to which the sample hospitals considered the effects of obsolescence in their deliberations. Table 12 depicts the results obtained from Question 6.

TABLE 12

EXTENT OBSOLESCENCE CONSIDERED IN CAPITAL EXPENSE DELIBERATIONS

Extent	Small Hospitals		Large Hospitals		All Hospitals	
	1966	1972	1966	1972	1966	1972
Heavily	2	6	3	6	5	12
Marginally	4	0	3	0	7	0
Not Considered	0	0	0	0	0	0
Total	6	6	6	6	12	12

Obsolescence has obviously been considered much more extensively in 1972 than during 1966. This question was designed to illuminate the results of Question 5 included in Table 11. The causal relationships of the results will be tabulated and analyzed in the summary portion of the questionnaire following a discussion of the methods of financing capital expenditures during both periods of time.

Sources and Methods of Financing

Question 13 was designed to determine the primary source of financing upon which hospitals relied during both periods of time. Table 13 illustrates the results of this inquiry.

TABLE 13

PRIMARY SOURCES OF FINANCING CAPITAL EXPENDITURES

Source	Small Hospitals		Large Hospitals		All Hospitals	
	1966	1972	1966	1972	1966	1972
Philantrophy	1	1	2	0	3	1
Operations (debt included)	5	5	4	6	9	11
Hall-Burton-Government Grants	0	0	0	0	0	0
Other	0	0	0	0	0	0
Total	6	6	6	6	12	12

Little change has occurred in the basic manner in which hospitals financed asset purchases. Hospitals in this sample tend to acquire assets from funds generated from operations. However, a question arises as to whether the acquisitions are made from funds already available and retained in the institution or by the incurrence of debt. Table 13 merely reflects that operations were the major source of funds for asset acquisition. Table 14 depicts the original fund source for the purchase of assets.

TABLE 14

PRIMARY OPERATIONAL FINANCING SOURCE OF CAPITAL EXPENDITURES FUNDS

Source	Small Hospitals 1966	Small Hospitals 1972	Large Hospitals 1966	Large Hospitals 1972	All Hospitals 1966	All Hospitals 1972
Funds currently available	3	1	2	1	5	2
Borrowing and future debt service	3	5	4	5	7	10
Total	6	6	6	6	12	12

These data reflect that hospitals rely more in 1972 upon debt incurrence, repaid by operations and future revenue than they did in 1966. This fact has been reflected in the writings of many authors, several of which have been cited in previous chapters of this work. Since leasing,

as has been discussed previously, takes on many of the attributes of debt, Question 14 was designed to determine the extent and underlying reasons for leasing.

TABLE 15

LEASING CONSIDERATIONS OF CAPITAL EXPENDITURES

Primary Purpose	Small Hospitals 1966	Small Hospitals 1972	Large Hospitals 1966	Large Hospitals 1972	All Hospitals 1966	All Hospitals 1972
Shield from obsolescence	0	0	0	2	0	2
Cash flow method of financing	0	2	0	3	0	5
Least cost method of acquisition & use	2	1	1	1	3	2
Seldom considered	4	3	5	0	9	3
Total	6	6	6	6	12	12

It can be observed from the above table that leasing was considered and utilized more in 1972 than in 1966. This was especially true for large institutions. It is also noteworthy that most of the hospitals adopting leasing to a larger extent did so for the purpose of easing acquisition and use problems specifically in regard to cash flow considerations. This provides further evidence that a significant shift has taken place resulting in the greater reliance of hospital administrators upon future funds provided by operations for financing current acquisitions of capital assets.

Summary of Specific Evaluative Techniques

An examination of data contained in this section of this chapter as summarized in the tables presented indicates that all hospitals included in the sample have upgraded the sophistication and increased their efforts to evaluate capital expenditure decisions in a superior fashion. Although their analysis is primarily related to cash-flow and breakeven analysis, unadjusted for time, it is also apparent that significant progress has been achieved in the methods utilized. Prior to 1966 little attention was paid by several (3 of the small and 1 of the large hospitals) of the institutions to evaluating proposed asset acquisitions of an ongoing nonexpansionary nature. Many of the administrators of the remaining hospitals indicated that their analysis was at times somewhat superficial and certainly less adequate in 1966 than during 1972-73.

Table 11 reflects that a rather thorough knowledge and understanding was possessed and utilized by hospital administrators in regard to profit-volume-cost relationships during 1972. This fact represents a significant increase in the number of hospitals utilizing such concepts during 1966. Hospitals were found to have relied more upon future revenues for debt service and lease payments in 1972-73 than they did during 1966.

This section of the completed questionnaire further revealed that hospitals have become more conscious and

concerned with the various aspects of obsolescence. This phenomenon which results from rapidly progressing technology will be considered at some length in the next section of this chapter.

This analysis of the first two sections of the questionnaire reveals that the hospitals in this sample have initiated and experienced radical changes in their methods of budgeting, planning, and evaluating capital expenditures. The following section of the questionnaire represents an analysis of the impact of the advent of high penetration, third party cost reimbursement programs of Medicare and Medicaid. This section also contains a group of questions regarding hospital administrators' perceptions of alternative methods of reimbursement. Since there are currently many suggested methods of altering the health care delivery system under Congressional study, it was deemed important to evaluate hospital administration views and capabilities of response to various incentives and potential changes.

Impact of Medicare and Forecast of Responsive Ability

Effects of Medicare

The first seven questions of the final section of the questionnaire were designed to establish and isolate the effects of Medicare upon the capital expenditure decision. Both direct and indirect implications of the impact of Medicare were considered. Comments of various sample hospital administrators are included, where appropriate,

along with tabulations of the primary data. Once again, the benefits of personal interviews facilitated penetrating analytical discussions which yielded much valuable information in addition to the primary responses to specific questions included in the questionnaire.

The first question dealt with the administrative assessment of the constructs of the capital expense decision during both periods of time. The question specifically inquired whether or not, in retrospect, administrators felt that the capital expenditure decision criteria utilized during 1966 and 1972 were adequate. Four of the administrators of small hospitals stated that, retrospectively, the decision mechanism and analysis techniques existing in 1966 were grossly inadequate to meet the needs of the institution. Three of the administrators of the larger hospitals shared this position in regard to 1966. However, during 1972-73, five of the administrators of small hospitals and all of the administrators of the large institutions felt the capital expenditure decision mechanism was adequate. Several of the administrators of both size groups further stated that they recognized that additional refinements could still be incorporated in the decision; however, when taken in context with the reimbursement structure faced during 1972-73, their procedures were adequate.

Question 2 was intended to reveal what changes had been forthcoming as a result of any dissatisfaction expressed

in the previous question. The administrator of Muskogee's General Hospital stated, "Since (the introduction of) Medicare we have done so much in sophisticating our internal accounting process to relate a charge and a cost to each other."[5] He further indicated that Medicare has improved our ability to observe the performance and interrelationships of cost and activity.[6] A similar sentiment was shown by the administrator of Pryor's less than 100 bed Grand Valley Hospital who stated, "Data retrieval is so much better than it was. This was a direct response to Medicare; however, this turned out to be a tremendous blessing in disguise."[7] He later added that he now performs much more budgeting, planning, and cost finding analysis than before Medicare.[8] In summarizing the results of answers to Questions 1 and 2, it is further evident from earlier analysis (in the first and second sections of the questionnaire) that much more effort and sophistication has been achieved between the years of 1966 and 1972-73.

Question 3 was designed to determine what effect, if any, the advent of Medicare had upon the patient service volume of hospitals since its introduction. Since, prior to 1966, records were not generally maintained which revealed patient mix by age category little primary, hard copy data were available. Thus, it was necessary to rely almost completely upon the memory and impressions of the several sample hospital administrators. Nevertheless, a

tabulation of the responses to this question revealed that four administrators from each group felt that the advent of Medicare had resulted in a significant upward movement of patient utilization of services in their hospitals. Since eight of the twelve administrators took this position and related occupancy statistics provided by several of the sample institutions for 1965, 1966, and 1967 revealed an atypical upward movement of in-patient days this contention is deemed reasonable.

Question 4 was intended to determine if the advent of Medicare had caused sample hospitals to replace obsolete equipment and acquire additional sophisticated equipment provided by the evolution of technology. Five of the six small hospital administrators and three of six administrators of large institutions indicated that, indeed, this phenomenon had taken place. Administrators were questioned regarding specific instances and causes of this action to facilitate understanding of the relationship. The administrator of Norman's Municipal Hospital stated that Medicare lowered his previous constraint of "not being able to afford items."[9] The administrator of Muskogee's General Hospital repeated this sentiment by stating that through the predictability and reliability of collection for services rendered, "Medicare has made much more money available to develop (and adopt advances in) technology.[10] A similar position was taken by Ardmore's Memorial Hospital administrator who

pointed out, "The cost reimbursement of Medicare speeded up acquisitions, technological advances, and obsolescence because, in this hospital, we could afford things we could not aford before."[11] When questioned regarding specific assets or types of assets acquired as a result if the increased reliability of cash flow and cost coverage the administrator of Pryor's Grand Valley Hospital responded saying, "Medicare caused many services to be added, such as inhalation therapy, with a resulting great impact upon the evolution of technology."[12] The administrator of Shattuck's Newman Memorial Hospital stated, "Medicare has demanded some changes that brought about better patient care and with Medicare cash flow was improved and is more predictable,"[13] and further that the people least able to pay have been replaced by Medicare and Medicaid thus guaranteeing certain cash flows.[14] The administrator of Beaver's Beaver County Memorial Hospital indicated that Medicare had required him to purchase several "unneeded" additional assets including the necessary equipment to establish a standing, refrigerated blood bank.[15]

Question 5 was designed to determine the overall impact of Medicare upon the capital expenditure decision. The following table reflects the responses to this inquiry.

TABLE 16

THE IMPACT OF MEDICARE UPON THE CAPITAL EXPENDITURE DECISION

Level of Impact	Small Hospitals	Large Hospitals	All Hospitals
Major	5	3	8
Marginal	1	2	3
None	0	1	1
Total	6	6	12

Table 16 reflects that every hospital but one large institution credited Medicare with at least marginal impact upon the capital expenditure decision making processes and that 2/3 of all hospitals indicated a major impact. It was subsequently determined that this particular institution had enjoyed a long, continual, and significant pattern of growth and expansion. The chief financial officer indicated that as a consequence of the critical need for relatively sophisticated cost and utilization data resulting from this rapidly expanding service demand, most of the data capture and retrieval requirements of Medicare were already being met in the ordinary course of business. Detailed careful cash flow forecasting had also been utilized for many years prior to Medicare as a direct result of expansionary cash requirements.

One of the large hospitals which indicated that Medicare had had only marginal impact upon the capital

expenditure decision pointed out that they too had been required previously as a result of unusual operating conditions to attain and employ most of the sophisticated practices and techniques demanded later by Medicare. However, the administrator of this hospital indicated that his institution had been suffering alarmingly low occupancy levels and severe cash flow problems both prior and subsequent to the advent of Medicare. This administrator further emphasized that since the institution had constantly faced severe operational problems for many years prior to Medicare, most of the record keeping and data analysis techniques required by Medicare had already been adopted by 1966. He pointed out that the consequence of poor decision making in his institution could have resulted in immediate potential insolvency. Therefore, great care had been exercised in planning and evaluating capital expenditures for many years prior to Medicare. Both administrators opined that, absent the aberations or unusual operational characteristics of their respective institutions, Medicare would have indeed resulted in a substantial impact upon capital expenditure decisions.

Therefore, it would appear that only unusual extenuating circumstances have prevented the finding of an even more profound impact of Medicare upon the capital expenditure decision. As previously observed, 2/3 of all the hospitals interviewed indicated that Medicare has had

a profound impact upon their capital expenditure decisions as reflected in Table 16.

Question 6 was designed to isolate the underlying cause of the previously discussed impact, if any, upon sample hospitals. Table 17 provides insight as to this issue.

TABLE 17

SPECIFIC ATTRIBUTES OF THE MEDICARE LAW MODIFYING ADMINISTRATIVE BEHAVIOR

Facet	Small Hospitals	Large Hospitals	All Hospitals
Availability of superior data	5	2	7
Increased utilization	0	1	1
Audit potential	0	1	1
Minimal or no effect	1	2	3
Total	6	6	12

Obviously, the most profound effect of Medicare on capital expenditure decisions of sample hospitals has been as a result of the utilization of data made available by the increased record keeping requirements of Medicare. Several hospital administrators provided relevant comments, in response to Question 8, regarding the specific aspects of Medicare causing alterations in capital expenditure deliberations. The administrator of Bartlesville's Jane Phillips Memorial Hospital stated that he felt that, "The Medicare audit process has caused us to become much more sophisticated

in all of our accounting techniques which has, in turn, made us more capable of evaluating capital expenditure decisions."[16] The administrator of another large hospital included in the sample stated:

> For several years hospitals were inefficient. They could basically charge whatever they wanted. However, since that time major changes have occurred to make hospitals more efficient. Medicare was the catalyst that kicked off this phenomena. It took more knowledgeable people to live with Medicare.[17]

He added, "We can fault Medicare for requiring all of these statistics, but much of it one can also use for internal analysis. Medicare has provided a vehicle for predicting cash flow."[18] Thus, it is determined that the advent of Medicare and Medicaid has increased predictability of cash flow thus facilitating the acquisition of capital assets by insuring, to a great extent, the ability to service debt in a timely fashion.

An administrator of one of the small hospitals included in the sample stated, "Much of our increased sophistication was a result of Medicare forcing us to improve our bookkeeping and accounting."[19] Another administrator revealed similar beliefs stating, "Medicare has required the retention of additional data which has helped in decision making."[20] In commenting upon the impact of Medicare's additional record keeping requirements in regard to capital expenditure decisions the administrator of a third small institution said, "This job has become much easier as we do not have to dig so hard for relevant data."[21] The administrator of Atoka's hospital revealed that, "Today our system and methods (of administration) are much

better (as a result of Medicare record keeping requirements)."[22] The administrator of Weatherford's Hospital stated, "We have developed a more detailed program of analysis (as a result of Medicare)."[23] Finally, the administrator of Beaver County Hospital said, "We have more relevant data to analyze the decision better (as a result of additional record keeping requirements of Medicare.)"[24]

Thus, it is profoundly apparent that Medicare and its several aspects have indeed had a radical impact upon the capital planning and evaluating functions of hospitals in the selected descriptive sample. The following section of this chapter will consider the responsive capabilities of hospital administrations in regard to various plans of prospective incentive reimbursement for services.

Responsive Capabilities

There are currently many alternative forms of health care delivery, financing, and operating under consideration by various professional groups and segments of government. Several were selected and outlined in Chapter III and therefore a summary is not deemed necessary at this point. Questions 9, 10, and 11 were designed to analyze sample hospital administrators preferences as to systems of reimbursement and operation. Question 9 inquired as to whether hospital administrators preferred a system of controls or incentives for cost containment programs. With only one dissenting hospital from the group with less than

100 beds, administrators favored a system of incentives. These 11 hospitals were particularly emphatic in this respect citing, unanimously, recent difficulties experienced under economic stabilization programs which were allowed to expire during the month of May, 1974.

Question 10 then inquired as to whether hospital administrators were capable of responding to the various types of incentive programs found today. All six of the administrators of large institutions felt they and their staffs currently possessed or could immediately acquire any needed expertise required for intelligent response to programs of incentives. Five of the six administrators of small hospitals shared this belief. The small institutions expressed a surprising willingness and eagerness to adopt whatever techniques might be necessary to adequately respond to any alternative programs of incentives.

Question 11 was designed to isolate precisely which type of incentive plan, commonly found, appeared to the administrators to contain powerful, positive incentives for efficiency and effective operations. Table 18 reflects the results of this question.

TABLE 18

INCENTIVE REIMBURSEMENT PLANS PREFERRED BY SAMPLE ADMINISTRATORS

Plan	Small Hospitals	Large Hospitals	All Hospitals
Prospective cost based	3	2	5
Prospective negotiated charges	2	4	6
Health Maintenance Organization operation	0	0	0
Present system	1	0	1
Total	6	6	12

Thus, by a narrow margin small hospitals preferred a prospective cost based incentive plan for reimbursement. Large hospitals preferred by a wider majority a system of prospectively negotiated charges for services rendered. The administrator of Bartlesville's Jane Phillips Memorial Hospital stated, "We would welcome the challenge of going before a review board and stating our case based upon our budgeting abilities."[25] Many other sample hospitals shared this same enthusiasm for prospective reimbursement, either cost or charge based. Most institutions stressed that the key to success for any prospective reimbursement plan is contained in the ability of such plans to reward rather than penalize effective, prudent operations. Several of the hospitals pointed to the frequently stated criticism of retrospective cost plus reimbursement which in essence

states that if hospitals are reimbursed based upon costs, then there is no incentive to control costs. Indeed, the more institutions spend, the greater is the flow of funds to support organizations. The sample institutions, for the most part, indicated a belief that a well administered program of prospective reimbursement structured in such a manner that effective management was rewarded would enhance cost control and analysis much more than the present system. It appeared significant that no hospitals of either size group indicated a preference for operating under the concept of a Health Maintenance Organization. Reasons for this position are explored in the next segment of the questionnaire.

Impact of Potential Health Maintenance Organization Operation

Questions 12 and 13 were included in the questionnaire since particular attention and funding has been established at the national level to investigate the feasibility and desirability of Health Maintenance Organizations Operations on a wide scale. Administrators of both size groups of hospitals, who chose to respond to these questions, felt, almost unanimously, that a Health Maintenance Organization would have a major impact upon the manner in which their institutions were operated. It is significant to note that fully half of the small administrators declined to respond to either Question 12 or 13. Reasons for this

were typically that the individual in question simply did not feel knowledgeable enough regarding the day to day administrative workings in the operation of a health maintenance organization. The remaining three administrators of small hospitals all felt that the creation of a health maintenance organization would greatly affect the operations of their institutions.

Four of the administrators of large hospitals felt that a Health Maintenance Organization would have a major effect upon the operation of their institution. Of the remaining two large hospital administrators, one declined to respond and the other one indicated he felt the introduction of a Health Maintenance Organization would have little effect upon his institution.

All of the administrators of small hospitals expressed some doubt as to whether a rural health maintenance organization could represent a viable system of health care delivery. Most of the concern centered around a shortage of physicians in rural areas and the problems encountered in obtaining the services of such specialists as are needed to comprise a complete Health Maintenance Organization. Most of the administrators of both size groups that responded to the questions also expressed some apprehension that much of the decision making ability regarding the level of health care in a community would be removed from the community, or section of a city, to a

remote centralized facility with few if any informal community ties or responsibilities. Most administrators interviewed stated they felt that they, in conjunction with their medical staffs and hospital boards principally comprised of laymen from the community, could best describe, plan for, and implement the level of health care in that community. They, also, acknowledged the need and desirability for areawide planning as a tool to prevent significant duplication of service and other non-productive phenomena from occurring. However, their position was basically that areawide planning agencies should be primarily clearing houses for data and information and advisers with a greater degree of expertise than most hospitals retain on their staffs.

The concensus of the group of administrators of the sample hospitals was that significant lattitude should be afforded individual hospitals to evaluate and choose alternative courses of action depending upon resources, capabilities of the institution, and desires of the community. Since resources have begun to flow from tax monies (at least to a greater extent than in 1966) the administrators recognized the need for accountability to the various levels of government providing funds for the operation of hospitals. In essence, some balance of autonomy and accountability would seem to hold the greatest promise if Health Maintenance Organizations are adopted at the national level. The previously cited interview with

Dr. Milton Sugarman of Elk City's Community Hospital serves well as a model to illustrate that many of the apprehensions, especially physician recruitment, may be resolved without detrimental effect to the health delivery system of the community.

The final question of the questionnaire was designed to allow administrators an opportunity to express any other factors or events that have influenced the capital expenditure decision. Most of the administrators interviewed indicated that rapid technological advances, coupled with material cost increases, have had some effect upon the capital expense decision. However, eight of the administrators interviewed (three from small hospitals and five from large institutions) further indicated their doubts that technology alone would have caused much of an alteration in planning and evaluation in capital expenditure decisions. The reason for this was that, absent Medicare, with its directives requiring improved accounting, audit capabilities, and extent of revenue penetration, there would have been little incentive for hospitals to upgrade accounting systems and deliberative techniques. Hospitals would have been able to pass through billed charges to fragmented reimbursers and insurance virtually without question. Most hospitals interviewed further indicated, however, that absent Medicare many citizens, particularly those covered by Medicare and Medicaid, would have effectively been prohibited from

obtaining adequate health care as a result of its increased cost. Hospital administrators also pointed to the "demand pull" phenomena of Medicare which created service markets resulting in a requirement for additional health care, which in turn, itself, had a tremendous impact upon the rate of advancement of technology.

The only other significant factor cited by the several hospitals was concerned with physician recruitment. This factor was mentioned exclusively by three hospital administrators from hospitals in rural areas containing fewer than 100 beds. These three administrators indicated that they had purchased several assets in an effort to recruit physicians to their community. However, each of these administrators further indicated that improved abilities to evaluate proposals and acquire assets related primarily to the various aspects of Medicare already discussed and referenced. These administrators indicated that occasionally assets were purchased which were not purely economically desirable principally in an effort to attract specialists or additional physicians to their community.

Summary of Impact of Medicare and Forecast of Responsive Ability

Medicare has been demonstrated to have radically improved the methods of budgeting, planning, evaluating, and acquiring capital assets. Since 1966 significant improvements have been instituted by most of the institutions interviewed. Hospitals, further, appear quite eager and

willing to experiment with alternative systems of reimbursement designed to provide incentives for efficiency and effective operations. The data reflected in Tables 16 and 17 indicate that 2/3 of all sample hospital administrators felt that Medicare and Medicaid have had a major impact upon their institutions. It is significant that all but one of the small hospital administrators felt this way. Indeed, all of the administrators of both groups except one felt that the impact of Medicare was at least marginal.

Table 17 reflects that seven administrators felt that the increased record keeping requirements of Medicare had provided the greatest stimulus for change. In addition, one hospital administrator felt that increased utilization resulting from Medicare had caused the greatest change while another credited increased audit exposure as the prime incentive for change under Medicare.

The hospitals interviewed expressed some apprehensions regarding adoption of the concepts of health maintenance organizations. Table 18 reflects this revealing no hospitals favoring an H.M.O. form of operation. These concerns primarily centered around a perceived potential loss of autonomy and responsive capability to community health care needs. Thus, it was found that 11 of the 12 hospitals favored some method of prospective rate setting. The sample hospital administrators were almost evenly

divided between prospective cost and negotiated charge methods of prospective rate setting.

The following section of this chapter analyzes, in summarized fashion, findings of empirical research separately for small hospitals and then for large hospitals. Finally, findings for both size groups will be summarized together.

General Summary and Conclusions

In order to emphasize the most significant results of the questionnaire, the following table is presented. The table is organized in such a manner as to present the data and results in accordance with the basic organization of the questionnaire. The data are extracted from tables presented throughout the chapter.

TABLE 19

SYNTHESIS OF QUESTIONNAIRE RESULTS

Inquiry Hospitals	Small Hospitals 1966	Small Hospitals 1972	Large Hospitals 1966	Large Hospitals 1972	All Hospitals 1966	All Hospitals 1972
Employing Capital Budgets	1	5	1	6	2	11
Planning in Detail for 1 Year or More	2	6	4	6	6	12
Increasing Planning Efforts by 25% or More	-	5	-	6	-	11
Utilizing Present Value Techniques	0	0	0	0	0	0
Utilizing Detailed Cash Flow Projections	2	6	3	6	5	12
Considering Heavily Effects of Obsolescence	2	6	3	6	5	12
Relying upon Future Operations for Financing	3	5	4	5	7	10
Impact of Medicare on Capital Expenditure Decisions						
Major	-	5	-	3	-	8
Marginal	-	1	-	2	-	3
Total		6		5		11
Improving Cost Analysis as a Result of Superior Data		5		2		7

Table 14 reflects that, in general, the effects of Medicare upon the capital expenditure decision have been greatest upon hospitals with bed occupancy less than 100. Of the two classes examined, this size group of hospitals

was found to be the more substantially effected class. Small hospital administrators, overwhelmingly, indicated that Medicare and Medicaid have had a profound effect upon the operations of their institutions. These administrators indicated that, in respect to capital expenditure planning and analysis, Medicare's effects have culminated in the adoption of capital budgets, the rapid evolution of various cash flow and forecasting techniques, and a general more rational, planned approach to capital expenditure matters.

Interviews with larger institutions revealed that the impact of Medicare and Medicaid, although profound, was not as great as in smaller hospitals. However, the administrators of large institutions credited Medicare with a great influence upon their deliberations in regard to capital expenditure analysis. Also, other related considerations were found to be direct responses to the several aspects of Medicare.

The findings of the study indicated that, indeed, Medicare has brought about profound changes in the manner in which all hospitals in the sample plan for, budget, and evaluate capital expenditures. The following chapter draws certain conclusions with regard to the previously stated hypotheses. Recommendations for future programs are also included as well as various implications for future research.

Footnotes

[1]James D. Harvey, Administrator, Hillcrest Medical Center, Tulsa, Oklahoma, Personal Interview, March 28, 1974.

[2]Herbert Usry, Administrator, Grand Valley Hospital, Pryor, Oklahoma, Personal Interview, March 8, 1974.

[3]James L. Wittenbach, "The Impact of the Asset Depreciation Range Provision on Private Domestic Investment (unpublished Ph.D. dissertation, University of Oklahoma, Norman, Oklahoma, 1971), p. 118.

[4]Adolph Matz, Othel J. Curry, and Milton F. Usry, Cost Accounting Planning and Control (Cincinnati: Southwestern Publishing Company, 1972), p. 276.

[5]John O. Rohde, Administrator, Muskogee General Hospital, Muskogee, Oklahoma, Personal Interview, March 25, 1974.

[6]Ibid.

[7]Herbert Usry, Personal Interview, March 8, 1974.

[8]Ibid.

[9]Richard C. Luttrell, Administrator, Norman Municipal Hospital, Norman, Oklahoma, Personal Interview, March 20, 1974.

[10]John O. Rohde, Personal Interview, March 25, 1974.

[11]Vincent F. Snider, Administrator, Memorial Hospital of Southern Oklahoma, Ardmore, Oklahoma, Personal Interview, March 11, 1974.

[12]Herbert Usry, Personal Interview, March 8, 1974.

[13]Elwood Riley, Administrator, Newman Memorial Hospital, Shattuck, Oklahoma, Personal Interview, March 4, 1974.

[14]Ibid.

[15]Jimmie Cole, Administrator, Beaver County Memorial Hospital, Beaver, Oklahoma, Personal Interview, March 4, 1974.

[16]Wesley D. Burch, Administrator, Jane Phillips Episcopal - Memorial Medical Center, Bartlesville, Oklahoma, Personal Interview, March 8, 1974.

[17]Sturgis Cashon, Financial Vice-President, Baptist Medical Center, Oklahoma City, Oklahoma, Personal Interview, March 22, 1974.

[18]Ibid.

[19]Peggy Risinger, Administrix, Jackson County Memorial Hospital, Altus, Oklahoma, Personal Interview, March 29, 1974.

[20]Elwood Riley, Personal Interview, March 4, 1974.

[21]Herbert Usry, Personal Interview, March 8, 1974.

[22]William Goforth, Administrator, Atoka Memorial Hospital, Atoka, Oklahoma, Personal Interview, March 29, 1974.

[23]Ronnie Walker, Administrator, Weatherford Hospital Authority, Weatherford, Oklahoma, Personal Interview, March 22, 1974.

[24]Jimmie Cole, Personal Interview, March 4, 1974.

[25]Wesley D. Burch, Personal Interview, March 8, 1974.

CHAPTER VI

CONCLUSIONS

Summary

The previous chapter developed raw data obtained in lengthy interviews with several Oklahoma hospital administrators. Care was taken to remove as many demographic factors and render the descriptive sample selected as similar as possible to state and national populations. In this respect, the sample was isolated by utilizing specific tenure requirements, revenue penetration levels, geographic locations, and other demographic factors developed in consultation with Mr. Richard Luttrell, Administrator of Norman Municipal Hospital.

A questionnaire was then developed designed to gather relevant data and responses to successfully resolve the stated objectives of this study. In regard to the primary hypothesis it was determined that the advent of Medicare and Medicaid has resulted in improved capital expenditure and asset acquisition techniques in general hospitals. Testing the secondary hypothesis revealed that hospitals are prepared to respond to any of the several incentive plans for reimbursement being currently considered.

Specifically, this work was designed to establish or provide:

(1) The impact of third party high penetration reimbursement policies on capital expenditure practices in Oklahoma hospitals would be determined.
(2) Greater understanding by the health care industry could be facilitated as to the relationship, if any,

of cost control and monitoring devices such as Medicare and increased sophistication of planning capital expansion.

(2) Greater understanding by the health care industry could be facilitated as to the relationship, if any, of cost control and monitoring devices such as Medicare and increased sophistication of planning capital expansion.

(3) Results of this study would be useful to policy making entities in determining what type of incentives could be established to motivate hospitals to plan and budget capital asset expansion more carefully.

(4) Differences in capital expenditure techniques used in urban vs. rural hospitals will be isolated, thus facilitating development of incentives specifically designed for differing demographic environments.

(5) Incentives could be established so hospitals would be motivated to achieve superior capital expenditure methods thus providing a more effective health care delivery system.

During March of 1974 administrators of the selected hospitals were interviewed at length utilizing the questionnaire as a framework for discussion and analysis. The results of this process, described in detail in Chapter IV, were tabulated, presented, and discussed in Chapter V. The reader's attention is invited again to the fifth chapter of this study for a detailed summary of the results of the empirical data gathered.

Conclusions, predicated upon the data and summaries contained in Chapter V, may thus be drawn:

(1) It was determined that Medicare has indeed been a profound force in motivating hospitals to adopt refined, more sophisticated methods and practices of evaluating programs of capital expenditures. These refinements have, for the most part, taken the form of establishing formal detailed capital budgets, extending from 1 to 5 years in the future. The evaluation of capital projects and specific assets has, again for the most part, taken the form

of superior analysis consisting primarily of break-even analysis, cash flow forecasts, and cost-profit-volume relationship studies.

(2) Much of the improvement can be traced to the Medicare requirements for the retention, retrieval, and display of more detailed and relevant financial information. Much of this additional data involves relating costs and benefits within ancillary departments of one hospital. In any event, the increased record keeping requirements of Medicare has provided a profound educational experience for administrators in regard to financial aspects of hospitals. Medicare has also enhanced the predictability of cash flows thus facilitating more accurate and fruitful appraisals of specific proposed projects. It must be further noted that several of the sample hospital administrators indicated that the potential of audit under Medicare regulations spurred the development of data capture and reporting systems.

(3) Hospital administrations were found to be highly competent and knowledgeable in regard to such concepts as break-even analysis, cash flow forecasting, and cost-profit-volume analysis. The distinction between the performance of fixed, semi-variable, and variable costs was firmly grasped by administrators. In addition, most of the administrators interviewed expressed a willingness to accept more responsibility for decision making in response to incentive reimbursement plans being currently considered. Thus, the several sample hospitals have been found, as a group, to be adequately prepared to respond affirmatively and knowledgeably to the various prospective budgeting and rate setting plans currently under consideration at the national and state level.

(4) The impact of Medicare and Medicaid has been more significant upon the smaller rural hospitals than on the relatively larger urban institutions in the sample. Data displayed throughout Chapter V reflect this clearly. However, it is essential to note that the effect of Medicare and Medicaid has been to reduce the differences of planning and evaluating techniques between the two groups. The smaller institutions have been required to alter and improve their data gathering, reporting, and analysis techniques so that at this time they possess planning capabilities that are comparable to those of larger institutions. This was certainly

not the case in 1966. However, Medicare and Medicaid have provided a substantial force in narrowing differences in levels of sophistication between the two size groups analyzed in this study. Both groups appear to be capable of responding to incentives in similar fashion.

(5) Programs of requiring prospective budgeting are supported by most of the institutions examined. These prospective budgeting plans require accurate forecasts of utilization levels, structures of costs, and cash flow. All of the institutions of the sample appear to be willing and adequately prepared to successfully meet these requirements. While general statements may be made regarding sample hospital administrative responsive ability to various programs of incentives, further research is necessary before a particular individual method of reimbursement is selected as superior. As noted in Chapter III, there are many forms of prospective incentive reimbursement; however, the basic premise of detailed utilization forecasts is central to each one. The various minor refinements of each individual program could conceivably stimulate differing responses from institutions.

Since care was taken in selecting a sample representative of both the state and national characteristics, these results are deemed applicable to the total population of hospitals in the state and in other states possessing similar demographic characteristics with Oklahoma. The characteristics required of the sample involved administrative tenure, similar revenue penetration levels, full geographic coverage, and other more minor demographic characteristics. Obviously the urban-rural (large-small) segregation of the sample provided an important additional refinement regarding the representative nature of the sample.

Special scrutiny was accorded the effects of advancing technology and cost increases. It was determined

that technology and resultant cost increases have not, in themselves, precipitated major alterations in the methods of capital expenditure analysis employed. Hospital administrators confirmed the position that prior to Medicare, large equipment costs could have been easily passed on to a highly fragmented reimbursement structure, virtually without question. However, required cost analysis and reporting, coupled with vastly improved predictable cash flows and potential audit provisions, all included in the Medicare program, provided the necessary incentives and abilities to plan more carefully and effectively.

Recommendation and Implications for Further Research

Perhaps the single most obvious deficiency in the manner in which hospitals evaluate capital expenditures lies in the lack of an acceptable method of considering the time value of money. Although secondary to community health care, the acceptance of projects should be structured as closely as possible to economic desirability. The failure to consider the time value of money renders any ranking of long-term projects on an economic basis tenuous at best.

Therefore, additional research in the area of quantifying non-economic benefits and costs, including societal cost benefit analysis seems desirable. In addition, research to establish appropriate discount rates would also provide a worthy endeavor. Until such time that both of these difficulties are successfully resolved, the overall problem of national optimal resource allocation to the health care

delivery system will remain elusive. Thus, it would seem that concerted effort to develop a decision model for capital investment at the micro-economic level that could perform in congruence with macro-economic goals and objectives would represent a desirable national goal. Given the level of hospital administrative competence and desire isolated and examined in this study, it would appear that health care institutions are now eager to adopt even more sophisticated tools of budgeting and analysis in attempting to maximize societal benefits at the least cost.

This discussion should not be construed to imply that major contributions to the health care delivery system can only be made by developing an adequate method of time discounting costs and benefits. Indeed, it is recognized that a myriad of difficult and complex problems currently beset the health care industry. However, the nature and scope of this study have isolated and emphasized the problem depicted here.

Concluding Remarks

The methods of research employed in this study have been found adequate to resolve the stated objectives. Throughout the course of the research and analysis the author has found the health care industry to be overwhelmingly populated with dedicated individuals of good faith diligently attempting to resolve these difficult problems. A genuine interest in the level of national and community health standards has been detected at every level of the industry. Refinements and improvements detected and enumerated in this study provide strong support for these positions.

SELECTED BIBLIOGRAPHY

Personal Interviews

Burch, Wesley D., Administrator, Jane Phillips Episcopal-Memorial Medical Center, personal interview, March 8, 1974.

Cashon, Sturges, Financial Vice-President, Baptist Medical Center, personal interview, March 22, 1974.

Cole, Jimmie, Administrator, Beaver County Memorial Hospital, personal interview, March 4, 1974.

David, Ed, Methods and Procedures Analyst, Bureau of Health Insurance, personal interview, March 19, 1974.

Drake, David F., Associate Director, American Hospital Association, personal interview, November 1, 1973.

Earle, Paul W., Associate Director, American Hospital Association, personal interview, November 1, 1973.

Fill, William L., Director of Technical Services, Hospital Financial Management Association, personal interview, November 2, 1973.

Goforth, William, Administrator, Atoka Memorial Hospital, personal interview, March 29, 1974.

Hall, J. B., Vice-President and Controller, Oklahoma Blue Cross and Blue Shield, personal interview, October 4, 1973.

Harvey, James D., Administrator, Hillcrest Medical Center, personal interview, March 28, 1974.

Linde, Robert, Director of Research, Hospital Financial Management Association, personal interview, November 1, 1973.

Luttrell, Richard C., Administrator, Norman Municipal Hospital, personal interview, March 20, 1974.

Riley, Elwood, Administrator, Newman Memorial Hospital, personal interview, March 4, 1974.

Risinger, Peggy, Administrator, Jackson County Memorial Hospital, personal interview, March 29, 1974.

Rodgers, Cleveland, Director, Oklahoma Hospital Association, personal interview, November 15, 1973.

Rohde, John O., Administrator, Muskogee General Hospital, personal interview, March 25, 1974.

Shelton, Robert W., Executive Director, Hospital Financial Management Association, personal interview, November 2, 1973.

Snider, Vencent F., Administrator, Memorial Hospital of Southern Oklahoma, personal interview, March 11, 1974.

Stansburger, Jim, Oklahoma Hospital Association, personal interview, November 15, 1973.

Sugarman, Milton, M.D., personal interview, March 30, 1974.

Usry, Herbert, Administrator, Grand Valley Memorial Hospital, personal interview, March 8, 1974.

Walker, Ronnie, Administrator, Weatherford Hospital Authority, personal interview, March 22, 1974.

White, Ben, Oklahoma Hospital Association, personal interview, November 15, 1973.

Books

_____. Cost Finding and Rate Setting for Hospitals. Chicago: The American Hospital Association, 1968.

Anton, Hector R., and Firmin, Peter A. Contemporary Issues in Cost Accounting. Boston: Houghton Mifflin Company, 1966.

_____. Building a National Health-Care System. New York: Committee for Economic Development, 1973.

Crowningshield, Gerald R. Cost Accounting Principles and Managerial Applications. Boston: Houghton Mifflin Company, 1969.

Horngreen, Charles T. Cost Accounting and Managerial Emphasis. New Jersey: Prentice-Hall, Inc., 1969.

Matz, Adolph, Ph.D., and Curry, Othel J., Ph.D. Cost Accounting Planning and Control. Cincinnati: South-Western Publishing Co., 1972.

Somers, Herman Miles, and Somers, Anne Ramsay. Medicare and the Hospitals Issues and Prospects. Washington, D.C.: The Brookings Institute, 1967.

Stockton, John R., and Clark, Charles T. Introduction to Business and Economic Statistics. Cincinnati: South-Western Publishing Co., 1971.

_____. Reimbursement Incentives for Hospitals and Medical Care: Objectives and Alternatives. Washington: U.S. Government Printing Office, 1968.

Journal Articles

Altmiller, Russell. "The CPA's Role in Representing Small Hospitals." Texas CPA (January, 1971), p. 84.

Baker, Roy E. "Cost Confusion." Hospital Financial Management (May, 1969).

Baker, Roy E. "Prerequisite of a Budget System." Hospital Financial Management (February, 1970), pp. 19, 20, 37;

Bash, Paul L. "Can Capital Budgeting Work in Hospitals?" Hospital Administration (Spring, 1971), p. 59.

Berman, Howard. "Practical Approach to Incentives." Hospital Financial Management (March, 1970), pp. 24-25.

Boer, Germain B., and Parris, Walter K. "Flexible Budgeting and Cost Control Tool." Hospital Financial Management (December, 1970), p. 12.

Careana, Russell. "How to Maximize Reimbursement through Reclassification Entries." Hospital Financial Management (November, 1971), p. 3.

Carroll, James F. "Auditing Hospital Statements of Reimbursable Cost." Texas CPA (July, 1971), p. 46.

Caswell, Robert J. "Concepts of Cost Behavior for Decision-Making." Hospital Financial Management (January, 1972), p. 10.

Christensen, Folmer F. "New Challenge-Negotiated Reimbursement." Hospital Financial Management (March, 1969), p. 30.

Cicero, Frank T. "Article 28: An Overview." The Hospital Forum (March, 1972), p. 3.

Cleverley, William O. "Two Methods for a More Accurate Budget." Hospital Financial Management (July, 1972), p. 5.

Cole, Alvin G. "Plan for Capital Budgeting." Hospital Financial Management (April, 1969), p. 30.

Dahl, Tom. "A Health Care Reimbursement Concept that Will Work." Hospital Financial Management (January, 1971), p. 3.

Davis, K. "Economic Theories of Behavior in Nonprofit Private Hospitals." Economic and Business Bulletin (Winter, 1972).

DeAngelis, Charles E. "How to Build, and Beat Inflation." Hospital Topics (June, 1971), p. 34.

Deets, M. King. "The Financial Gap: The Concept of Leverage in Hospital Building Programs." Hospital Progress (November, 1972), p. 62.

Deets, M. King, and Amato, Frank C. "The Role of the Financial Intermediary in Building Programs." Hospital Progress (December, 1972), p. 26.

Denenberg, Herbert S. "Health Care and the Consumer." The FAH Review (October, 1972), p. 10.

Dick, Walter W. B. "A Continuing Capital Crisis in Our Community Corridors of Care." Halifax Chronicle (May, 1972).

Drake, David F., and Pauly, Mark V. "Effect of Third-Party Methods of Reimbursement on Hospital Performance." Empirical Studies in Health Economics (1970), p. 297.

Drebin, Martin E. "Financing Capital Equipment under Medicare." Hospital Progress (June, 1969), p. 118.

Ezelberg, Roger O. "How the Federal Government Looks at Health Care." Hospital Financial Management (September, 1971), p. 42.

Featherston, William M., M.D. "I'm for Co-Op Medicine!" Medical Economics (March, 1954), reprint.

Foster, Richard, and McNeil, Dorothy. "How Hospitals Finance Construction." Hospitals, J.A.H.A. (July, 1971), p. 47.

Francoeur, Robert L. "Considerations for Commercial Loans." Hospitals, J.A.H.A. (March, 1972), p. 36.

Freitag, William. "Medicare and the Hospital Revolution." The Journal of Accountancy (January, 1969), p. 39.

Gagnon, Jean P., and Rodowskas, Jr., Christopher A. "Capital Budgeting Techniques in the Hospital: Problems and Potential." American Journal of Hospital Pharmacy (September, 1971), p. 686.

Gifford, Richard D. "Ten Steps to Long-Range Planning." Hospitals, J.A.H.A. (March, 1972), p. 5.

Groner, Pat N. "Hospital Costs." World (Fall, 1969), p. 45.

Groner, Pat N. "Study Shows Changing Patterns of Financing." Hospitals, J.A.H.A. (March, 1972), p. 45.

Grundy, Richard A. "Hospital Accounting." Management Accounting (March, 1971), p. 45.

Guenther, Herman H. "Frequently Asked Questions about Budgeting." Hospital Financial Management (December, 1970), p. 29.

Hahn, Jack A. L. "All of the Various Sources of Capital Funding Must Be Exploited if the Present Health Care Crisis Is To Be Resolved." Hospitals, J.A.H.A. (March, 1972), p. 2.

Heller, Stephen. "Is Philanthropy Dead?" Hospital Financial Management (February, 1971).

Henke, Emerson O. "Performance Evaluation for Not-for-Profit Organizations." The Journal of Accountancy (June, 1972), p. 51.

Henning, Charles R. "Financing." Hospitals, J.A.H.A. (April, 1971), p. 69.

Jarett, Irwin M. "HMO = People + Organization + Financing + Risk." Hospital Financial Management (January, 1973), p. 6.

Johnson, Richard L. "Systems/Over-Automation." Hospitals, J.A.H.A. (January, 1970), p. 80.

Lave, J. R., and Lave, L. B. "Hospital Cost Functions." American Economic Review (June, 1970).

Lawrence, Charles. "A Study of a Program Budget for a Small City." The Journal of Accountancy (November, 1972), p. 52.

Martin, Glenn J. "What Experiments in Prospective Reimbursement Are Teaching Providers, Agencies, Third Parties." Hospital Financial Management (November, 1970), p. 3.

Murphy, Jr., Thomas. "The Hospital Treasurer and Controller: Duties and Responsibilities." Hospital Financial Management (April, 1970), p. 8.

Newhouse, J. P. "Toward a Theory of Nonprofit Institutions: An Economic Model of a Hospital." American Economic Review (March, 1970).

Orsini, Lewis J. "Hospital Financing: Public Accountability--The Case for Rates Prospectively Determined by State Agencies for All Patients." Viewpoint (January, 1974), p. 1.

Ozog, Julius J. "Governmental Sources for Building Funds." Hospitals, J.A.H.A. (March, 1972), p. 30.

Phillips, Donald F. "Leasing Comes of Age." Hospitals, J.A.H.A. (March, 1972), p. 40.

Psiris, John. "To Prevent Building Cost Overruns, Hospitals Must Move from Linear Planning Techniques to a Systems Approach that Includes Financial Considerations." Hospitals, J.A.H.A. (March, 1972), p. 10.

Reed, Richard W. "Avenues to Funding." Hospitals, J.A.H.A. (March, 1972), p. 14.

Romanoff, Samuel. "How to Control Patient Ledger Cards." Hospital Financial Management (October, 1972), p. 26.

Rosenfeld, Eugene D. "Areawide Planning Contains Costs if Agencies and Hospitals Equate Regional and Institutional Needs." Hospitals, J.A.H.A. (February, 1972), p. 36.

Rushkoff, Marvin A. "To Buy or Not to Buy? How Reimbursement Affects the Lease vs. Purchase Decision." Hospital Financial Management (August, 1971), p. 11.

Rutkowski, John. "Management of Planning Process." Hospitals, J.A.H.A. (February, 1972), p. 57.

Schlesinger, Richard H. "Planning." Hospitals, J.A.H.A. (April, 1971), p. 147.

Schmidt, William A. "Built for Tomorrow's Needs." Hospitals, J.A.H.A. (February, 1970), p. 92.

Schuetz, Robert D. "Suspended Encapsulation." Hospitals, J.A.H.A. (February, 1970).

Simpson, Wilford. "Pros and Cons of Using PIP." Texas CPA (October, 1971), p. 54.

Slottow, Richard S. "Operating a Development Program Involves Money, Expertise, Medical Staff, and Administrative Support." Hospitals, J.A.H.A. (March, 1972), p. 27.

Smith, Lorraine. "Put Wall Here Today, There Tomorrow." Hospitals, J.A.H.A. (March, 1970), p. 105.

Smith, Raleigh L. "Is Philanthropy Dead?" Hospitals, J.A.H.A. (March, 1972), p. 23.

Somers, Anne R. "Medical Education and the Community: A Consumer Point of View." The Hospital Medical Staff (December, 1972), p. 13.

Steinert, Jeff H. "The Impact of the Federal Government on Hospital Costs." Hospital Financial Management (July, 1971), p. 11.

Thompson, John D., and Fetter, Robert B. "Economics of Occupancy with Varying Mixes of Private and Other Patient Accommodations: A Stimulation." Health Services Research (Spring, 1969), p. 42.

Tonascia, Joseph G. "Why a Per Diem Rate Makes Sense." Hospital Financial Management (July, 1971), p. 13.

Ullman, Al. "Exclusive Interview with Al Ullman." Hospital Financial Management (April, 1974), p. 11.

Vandermade, Jr., Minor. "Improving Decisions to Contain Costs." Hospitals, J.A.H.A. (February, 1972), p. 89.

Wacht, Richard F. "Capital Budgeting Decision-Making for Hospitals." Hospital Administration (Fall, 1970), p. 14.

Walls, Edward L. "Cost Reimbursement Worsens Capital Crisis." Hospitals, J.A.H.A. (March, 1972), p. 18.

Wasyluka, Ray G. "New Blood for Tired Hospitals." Harvard Business Review (November-December, 1970), p. 40.

Weide, Patricia. "Reimbursement--Where Is It Going?" Hospital Financial Management (July, 1971), p. 3.

Wolkstein, Irwin. "Medicare Experiments with Hospital Reimbursements." Hospital Financial Management (July, 1971), p. 28.

Other Sources Consulted

_____. Twenty-First Fellows Seminar on the British National Health Service. London: American College of Hospital Administrators, 1969.

_____. The AHA Guide to the Health Care Field. Chicago: American Hospital Association, 1972.

_____. Expense Analysis Comparison. Chicago: American Hospital Association, 1973.

_____. Six-Month National Comparison for Period Ending December 31, 1972. Chicago: American Hospital Association, 1972.

_____. The CPA Letter. New York: American Institute of Certified Public Accountants, Inc., 1973.

_____. Conversations. Philadelphia: ARA Services, Inc., 1972.

Aherbach, Stuart. The Health Insurance Struggle. Washington, D.C.: The Washington Post, April 11, 1974.

_____. Oklahoma Industries Authority Board Prospectus. Oklahoma City: Baptist Medical Center, 1971.

_____. Feasibility Study. Oklahoma City: Baptist Medical Center, 1967.

Berg, Gordon H. "Integrating Capital Financing in the Building Process." Texas Hospital Association and American Hospital Association in Houston, Texas (March, 1972).

_____. Blue Cross Enrollment and Utilization Report. Tulsa: Blue Cross Association, 1973.

_____. Blue Cross Member Hospital Study. Tulsa: Blue Cross Association, 1972.

_____. Reimbursing Hospitals on Inclusive Rates. Boston: The Boston Consulting Group, 1970.

_____. Medical Care Review. Ann Arbor: Bureau of Public Health Economics, 1973.

Drake, David; Linde, Robert; and Neely, James. "Report on the Alberta Hospitalization Benefits Plan." American Hospital Association (November, 1967).

_____. Federation of American Hospitals Annual Report 1973. Washington, D.C.: Federation of American Hospitals, 1973.

Flath, Carl I. "Comprehensive Health Planning." Hospital Financial Management Association (August, 1973).

Hall, J. B. "Hospital Construction in Oklahoma." Private paper, 1972.

Houser, Richard E. "Cost Variation with Volume in a Non-Federal Short-Term General Hospital." Unpublished Ph.D. dissertation, University of Wisconsin, 1971.

Houser, Richard E. "A Cost Behavior Model in a Service Industry." Unpublished paper presented at the Southwest Social Sciences, 1973.

_____. A Study of Investor-Owned Hospitals in the United States and Puerto Rico for the Federation of American Hospitals. Philadelphia: Laventhal, Krekstein, Horwath and Horwath, 1973.

McDougal, T. R. "Some Effects of Cost-Reimbursement on Capital Requirements of. . ." University Microfilms (1970).

McSpadden, Clem. Personal Letter. Washington, D.C., February 7, 1974.

Noonan, William. "The Financial Mechanisms of the Ontario Health System." Hospital Financial Management Association Seminar (September, 1973).

_____. Prospective Payment Experiment for Oklahoma Hospitals. Tulsa: Oklahoma Blue Cross Plan.

_____. Directory of Oklahoma Hospitals--1973. Tulsa: Oklahoma Blue Cross Plan, 1973.

_____. Directory of Oklahoma Hospitals--1967. Tulsa: Oklahoma Blue Cross Plan, 1967.

_____. Review Abandoned. Oklahoma City: Oklahoma City Times, February 8, 1974.

_____. Directory of Oklahoma Hospitals, 1967-72. Tulsa: Oklahoma Hospital Association, 1972.

_____. Hospital Administrator's Salary Survey. Tulsa: Oklahoma Hospital Association, 1973.

_____. Penetration Statistics of Oklahoma Hospitals. Tulsa: Oklahoma Hospital Association, 1970.

_____. Accountant's Weekly Report. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1974.

_____. Group Health Plan Measure Signed into Law by Nixon. Oklahoma City: The Sunday Oklahoman, December 30, 1973.

_____. Inpatient Hospital Care. Tulsa: Tulsa Area Health and Hospital Planning Council.

_____. Facts about the Hill-Burton Program. Silver Spring: U.S. Department of Health, Education, and Welfare, 1968.

_____. Reimbursement Incentives for Hospital and Medical Care. Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1968.

_____. Vital and Health Statistics. Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1966.

_____. Medicare: Health Insurance for the Aged, 1968. Washington, D.C.: United States Government Printing Office, 1971.

_____. Review and Outlook No Time for Patients. New York: The Wall Street Journal, December 6, 1973.

Wallace, J. D. "Meeting-Hospital Financial Management Association-Toronto." Paper presented in Toronto (September, 1973).

_____. Maze of Health Insurance Measures Facing Congress. Washington, D.C.: The Washington Post, April 19, 1974.

Weerts, Donald A. "A Work-In-Process Measurement System for the Medical Systems Department." Unpublished paper, University of Wisconsin, 1970.

APPENDIX A

QUESTIONNAIRE

Hospital_____

Bed Size_____

Admin. _____

Date _____

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments

A. Framework of Capital Expenditure Planning

(1) Did a formal capital budget exist?

(2) What was the primary objective of capital expenditure planning?

(3) What was total capital budget or expenditure amount?

(4) At what dollar level did you submit specific proposals to capital budgeting analysis?

(a) $200

(b) $300

(c) $500

(d) $1,000

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments

(e) $5,000

(f) $10,000

(g) Other--None

(5) In past years how much has evaluation of capital methods grown in your hospital expenditure analysis?

(a) 100%

(b) 75%

(c) 50%

(d) 25%

(e) 0

(6) How far into the future was detailed "planning" generally carried (conceptual growth planning, etc.)?

(7) Which activity was capital budgeting most often used for?

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments

(a) Equipment addition

(b) Building repair and renovation

(c) Equipment replacement

(d) Other-combination

(8) What procedure was followed in developing capital expenditures program?

(a) Standing permanent committee

(b) Administrative-executive function

(c) Consultation with outside experts

(d) Other

(9) What reviews were made of initial capital budget expenditure plans?

(a) Administrative

(b) Hospital board

(c) Other

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments

B. Specific Evaluative Techniques

(1) Which of the following techniques did you use primarily in evaluating capital expenditure proposals?

(a) Payback

(b) Accounting rate of return

(c) Internal rate of return

(d) Net present value

(e) None are used

(f) Other

(2) Were future revenues and costs discounted in any manner to their present value?

(3) If so, what discount rate was used?

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments
(4) How, specifically, did you tie your projects to cash flow?			
(5) Was estimated life quantified and made part of the decision? (Including obsolescence)			
(6) Was the effect of obsolescence considered in the capital expense decisions? (as to shortened periods of revenue generation) (a) Yes-heavily (b) Marginally (c) No-none at all			
(7) Were studies performed regarding potential utilization levels of specific proposed assets? (a) Yes (b) No			

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments
(8) Did you make variable cost forecasts and estimates?			
(9) Were fixed costs of projects segregated into financing and operating categories?			
(10) Was the impact of fixed costs taken into account in profitability aspects? (i.e., concept of contribution margin)			
(11) Was the impact of fixed costs taken into account in relation to cash flow?			
(12) Were necessary per treatment charge levels then computed to ascertain reasonableness?			
(13) What sources of funds were considered primarily in financing?			

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments

(a) Philantrophy

(b) Operations

(c) Hill-Burton

(d) Leasing vs. purchase

(e) Other

(14) What was the primary reason leasing was considered?

(a) Shield against obsolescence

(b) Cash flow-method of financing

(c) Ease of acquisition and disposal

(d) Least cost method of asset acquisition

(e) Other-Service

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments
(15) What was prime criteria in capital expenditure decision? (below community health care rank the following considerations in your capital expenditure process)			
(a) Ability to pay for asset with available funds			
(b) Profitability-pay for operations			
(c) Efficient operations			
(d) Risk			
(e) Other			
C. Impact of Medicare and Forecast of Responsive Ability			
(1) In retrospect, were you satisfied with the capital expense decision criteria in existence			

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments

(a) Yes

(b) No

(2) What changes did you recommend?

(3) Did Medicare have impact upon volume?

(4) Has Medicare had an accelerating impact upon technology in this hospital?

(5) What impact has Medicare had upon the capital expense decision?

(a) Major

(b) Marginal

(c) Minimal

(d) Other

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments
(6) If major, what facet of Medicare has caused the impact?			
(a) Specific cost containment regulations.			
(b) Benefit of increased record keeping and cost analysis requirements.			
(c) Other			
(7) Can you isolate any particular phenomena of Medicare that has modified your behavior as regards asset acquisition?			
(8) If so, describe			
(9) Do you prefer a system of controls or incentives for hospital cost containment programs?			

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments

(a) Controls

(b) Incentives

(c) Other

(10) Do you feel capable of responding to the type of incentives currently being considered?

(a) Yes

(b) No

(11) What type of reimbursement formula do you feel would provide adequate incentives?

(a) Prospective cost based reimbursement

(b) Charge (negotiated) reimbursement

(c) Present system

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments

(d) Health maintenance organization operation

(e) Other (specify)

(12) What impact do you feel the potential increased number of health maintenance organizations will have on the deliverance of health care in general?

(a) Great

(b) Little

(c) None

(13) What impact would a health maintenance organization have on your hospital assuming decision making authority remains with the hospital?

INTERVIEW QUESTIONNAIRE	1965-66	1972-73	Comments
(a) Great			
(b) Little			
(c) None			
(14) What other influences were there on capital equipment acquisition techniques during the period of time in question and what was their extent?			

APPENDIX B

RICHARD C. LUTTRELL
Administrator

Norman Municipal Hospital

901 N. PORTER • P.O. BOX 1308 • NORMAN, OKLAHOMA 73069

January 18, 1974

Dear Sir:

Bill Holder is a doctoral candidate at the University of Oklahoma who is writing a dissertation dealing with hospital accounting. I have become acquainted with Bill who has been assisting our auditor for the past three years here at Norman Municipal Hospital. Bill is an intelligent, energetic young man who, I feel, could make a contribution in this area. Specifically, the study deals with future planning emphasizing capital assets acquisition and cost containment programs.

Bill would like to come to your hospital if you would be available to visit with him concerning his study. This will consist primarily of your completing a questionnaire concerning capital expenditures in Bill's presence. He will be able to assist in interpretation of the questions. In addition, he has selected your hospital to help him evaluate the questionnaire he is completing to determine if meaningful conclusions can be drawn. Dr. David F. Drake, the associate director of the American Hospital Association, and Cleve Rodgers have both expressed an interest in this study and any assistance you could provide Bill would be greatly appreciated. He will be calling you in the near future to set up an appointment with you at your convenience.

Sincerely,

Richard C. Luttrell

RCL:dh

RICHARD C. LUTTRELL
Administrator

Norman Municipal Hospital

901 N. PORTER • P.O. BOX 1308 • NORMAN, OKLAHOMA 73069

February 19, 1974

Dear Sir:

Bill Holder is a doctoral candidate at the University of Oklahoma who is writing a dissertation dealing with hospital accounting. I have become acquainted with Bill who has been assisting our auditor for the past three years here at Norman Municipal Hospital. Bill is an intelligent, energetic young man who, I feel, could make a contribution in this area. Specifically, the study deals with future planning emphasizing capital asset acquisition and cost containment programs.

Bill would like to come to your hospital if you would be available to visit with him concerning his study. This will consist primarily of your completing a questionnaire concerning capital expenditures in Bill's presence. He will be able to assist in interpretation of the questions. Dr. David F. Drake, the associate director of the American Hospital Association and Cleve Rodgers have both expressed an interest in this study and any assistance you could provide Bill would be greatly appreciated. He will be calling you in the near future to set up an appointment with you at your convenience.

Sincerely,

Richard C. Luttrell

RCL:dh

The University of Oklahoma 307 West Brooks, Room 200 Norman, Oklahoma 73069

Division of Accounting
College of Business Administration

March 24, 1974

Dear Sir:

Thank you very much for the valuable time you spent with me recently. The information and data you made available to me will prove invaluable in concluding my research.

I am also writing to request the information regarding your hospital's capital expenditures in fiscal 1966 and fiscal 1972. As I previously indicated, the specific amounts you indicate will be kept confidential. They will be used only to develop the average expenditure levels for hospitals in my sample.

Once again, thank you for your time and consideration. I deeply appreciate your cooperation.

Sincerely,

William W. Holder

WWH:dh

The University of Oklahoma 307 West Brooks, Room 200 Norman, Oklahoma 73069

Division of Accounting
College of Business Administration

May 17, 1974

I have found that several of your comments in our recent interview were extremely relevant and useful to my dissertation. In fact, when considered with the other administrators' remarks, they have become a necessary integral factor requisite for a successful completion of the work. The statements I find useful deal primarily with the techniques of evaluation for capital asset acquisition decisions.

Since I am aware of the demands upon your time, I will not ask you to unnecessarily correspond with me again, unless you strongly object to my proposal. In reviewing the entire interview, I found absolutely nothing which, in my opinion, might be misconstrued out of context. Therefore, I feel that the statements I would like to include will reflect only in a positive manner on both you, your institution, and the health care system in Oklahoma.

Sincerely,

W. W. Holder, CPA
Special Instructor of Accounting

WWH:mp