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ABSTRACT

The purpose of this monograph is to discuss employee incentive plans with a potential for cost containment in order to assist hospitals in providing efficient and effective delivery of health care. Based on an examination of employee incentive systems both in and outside the health care field, the information is intended to aid the administrative team in decisions associated with: (1) deciding whether an incentive program is desirable, (2) selecting the appropriate incentive system, (3) modifying the program to fit the specific institution, and (4) implementing, operating, and evaluating the program. (SB)

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Health Services and Mental Health Administration

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Foreword

This monograph was prepared under the direction of the American Hospital Association under contract with the Health Services and Mental Health Administration. The authors are Dr. David H. Gustafson, Department of Industrial Engineering, University of Wisconsin; Dr. John Doyle, Sociology Department, North Illinois University; and Mr. J. Joel May, Director, Center for Health Administration Studies, University of Chicago.

It is hoped that this report will prove of service to hospital administrators in clarifying the advantages and disadvantages of various employee incentive systems. Methodologies for implementation and evaluation of the several systems are also presented.

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Contents

Preface

The purpose of this monograph is to discuss employee incentive plans with a potential for cost containment in order to assist hospitals in putting effective incentive plans into practical operation. The continuing efforts of the American Hospital Association to identify and evaluate cost control measures obviously stem from the rapid cost increases witnessed in the health care field and the attendant concern of hospital officials, legislators and the public that these cost increases be held to a minimum. The statistical picture is by now well known to those in the field and has become familiar to many Americans. Costs for nonfederal, short term hospitals averaged just over $70 per day in 1969, more than seven times the cost of $9.39 per day for 1942, twice as much as the $35 figure for 1961.[1] The American Hospital Association along with others in the health care field is looking for methods to counteract these unfavorable cost statistics. While it is generally recognized that the trend cannot be reversed because of rising wages and costly technological advances, there is a widespread concensus that the rate of increase can and must be slowed.

Many people both within and outside the health care field have turned to incentive programs of one kind or another as a potentially fruitful management tool in an attempt to keep costs under control. The argument goes that since hospitals lack a profit mechanism and market competition to stimulate cost consciousness, incentives must be built into the system at all levels in order to achieve a more desirable cost picture. Thus, both the National Advisory Commission report on Health Manpower and the Barr Report recommended incentives to improve organization effectiveness and better cost control.[2]

Additionally, the hospital periodical literature has prominently featured articles describing the successful use of incentive plans in hospitals. A good many of these articles have dealt with the usefulness of incentives for a variety of employees from operating room and floor nurses, to personnel in housekeeping and dietary.

The continuing cost pressure and the growing interest in incentives as a cost control method lend importance and even urgency to the task of analyzing the potential of incentives in hospitals and constructing guidelines for the implementation of these programs.

In order to accomplish this the monograph will: 1) identify for hospital administrators, the major factors to be considered when developing employee incentives to increase organizational effectiveness and 2) provide guidelines for taking these factors into account during incentive system selection, design, implementation and evaluation. Institutional incentives such as third party reimbursement methods will not be covered. In this monograph "incentives" will refer only to those concerned with employee motivation.

Employee incentive systems both in and outside the health care field have been investigated in order to identify the strengths and weaknesses that may affect their applicability to the health care field. Our state of the art review has included experts in and literature related to both financial and non-financial employee incentive programs. Where possible this literature has been referenced rather than reviewed so the reader can pursue the topics in more depth.

In reading this document a few words of caution seem appropriate. First, any incentive system no matter how well developed can not hope to succeed in a vacuum. It must be included as part of a total program of effective management. In fact that program of effective management must exist *before* installation of an incentive system.

Second, in writing the study the authors have attempted to provide an objective assessment of incentive systems. In some chapters the reader will recognize areas of concern regarding the potential of monetary incentives in hospitals. Such precautions are not meant to rule out their application, but to create an awareness of the pitfalls as well as strengths of incentive systems, so that decisions can be made from an informed base.

Finally, we want to thank the individuals who assisted us in preparation of this monograph. It would be impossible to mention all the names of the scholars, hospital personnel and practitioners who have advised and counseled us. We greatly appreciate their help and the help of our advisory committee; Carroll M. Mickey, Ph.D, chairman; Stanley M. Block, Ph.D.; Dan G. Kadrovach, F.A.C.H.A.; Roger G. Larson; and Richard A. Stolnacke. Contract officer, Mr. James L. Smith; project coordinator, Steven H. Friedman; our project director, Frederick R. Wolf, deceased; George E. Schunior, deceased. The typists, Mrs. Saundra L Ghorbani, Miss Ankine Seferian, Mrs. Ollie M. Williams and Miss Jessica Whitehead.

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[1] Footnote to Hospital Guide Issue, August 1, 1970, Volume 44, Part II, Page 473.

[2] See for example: Report of the National Advisory Commission on Health Manpower, Volume I, Pages 54 and 55.

Chapter 1

Introduction

The monograph addresses itself to the need for increased efficiency as well as increased effectiveness in the delivery of hospital care. It emphasizes the precise definition of these factors, and how they combine to affect the overall productivity of the hospital as the primary health care organization. It attempts to present material that can aid the administrative team in the decisions associated with: deciding whether an incentive program is desirable, selecting the appropriate incentive program, modifying it to fit the specific institution, implementing, operating and evaluating the program. It stresses the importance of not jumping to the conclusion that an incentive program should be installed until the problems and objectives of the hospital have been identified.

Hospitals are quite different from industries that have traditionally used incentive systems. For one thing the product is not easily defined or measured. For another, the nature of the production process is not well understood so it is difficult to relate effort to product. Further, hospitals are quality rather than cost oriented and any incentive system selected must reflect this. Finally, the staff is made up of a large percentage of professionals, raising the problem of standardizing effort in the face of the "professional perogative". These differences are important because the solutions adequate for industry may not be appropriate in the health field. This means hospitals must not only select the best existing incentive system but must then modify it to be appropriate to the health system. More importantly, this points to the need for further research into design of effective incentives.

A striking aspect of the industrial experience with incentives is the absence of any systematic method for evaluating the effects of incentive systems once installed. There are a great many scattered reports of different plans, but there is no standardized and rigorous methodology that can be used over the whole range of incentive systems. As a result incentive system reviews read like a collection of press releases, testimonials, scandals, harangues, and old wives' tales. It is crucial that the health care industry avoid the luxury of not really knowing what incentive systems are returning for the resources invested in them, and, for this reason, a method for installing and evaluating incentives must be developed.

Incentive systems are typically installed in an attempt to improve productivity by motivating management and employees to identify and/or accept innovations, reduce waste, orient their goals to those of the organization, reduce conflict, and work harder. If properly chosen, installed and operated, the right incentive system can do all of these. However, if these actions are not properly taken the effect of the incentive system may be just the opposite of that planned.

There are several kinds of incentive programs. We have chosen to classify them according to the employee unit upon which production is measured and payment evaluated. These break down to individual, team and large group incentives. However, all possess certain common elements: in each case a standard performance level must be defined, measures of performance and methods of comparing desired and actual performance mus be developed, and rewards must be calculated and paid according to this comparison. The difficulty of these steps varies among incentive systems. Chapter four reviews the range of incentives systems available to hospitals, describing for each of the selected systems the purpose, standards used, motivational influence, method of calculating payments, applicability, benefits and pitfalls.

In addition to monetary incentives, we have devoted part of the monograph to nonmonetary incentives. These plans represent an approach to motivation somewhat newer than and radically different from traditional monetary incentive schemes. Where the former have historically relied on monetary inducements and a comparatively hierarchical authority structure, the latter have been based on social and psychological motivators and more democratic patterns of management. The health field at this time ought to work with both monetary and nonmonetary systems. Further experience may well demonstrate the superiority of one type of plan, but there is no reason to prejudge the case until such experience is thoroughly evaluated. Based on the experience of industry, it appears that the best incentive system will incorporate elements of both kinds of incentives.

There is no single monetary or nonmonetary incentive system that is best for all hospital operations. In fact no system is appropriate in its pure form because it was developed for situations much different from those encountered in a hospital setting. As a result any incentive system selected should be modified to meet the particular needs of the situation at hand.

Chapter 6 presents a procedure for selecting the incentive system that comes closest to meeting the needs for a particular motivational problem. The procedure begins by identifying the alternative incentive systems and describing them in terms of their ability to meet alternative objectives that the hospital may hope to accomplish. These objectives have been detailed for the reader. Once the administrator decides what objectives he hopes to achieve he can eliminate some incentive systems by comparing his objectives to the ability of each system to achieve them.

The next step is to describe the hospital situation in terms of criteria important in further screening of the alternatives. These criteria have been identified and discussed. Each alternative incentive system has been described in terms of its ability to operate under conditions described by these criteria. A procedure, developed by T. Lupton is used to match the situation to the best incentive system. Finally it is emphasized that the selected system cannot be implemented as is but must be modified to be more appropriate to the situation at hand.

Once selection is completed the most important procedural step is to insure that appropriate standards are selected, developed and properly maintained. The inability to do this has played a major role in most incentive system failures. Chapter 7 reviews desirable characteristics of standards and measures. It then describes alternative standards in terms of the degree to which each satisfies these criteria. Finally, guidelines are provided on how to develop and maintain standards and measures.

In the same chapter we emphasize the need to have an equitable salary case upon which to build the incentive system. An incentive system should only be developed after an equitable job structure has been developed through job analysis and job evaluation. This is really a symptom of a larger need referred to several times in the text: the importance of having an effective total management program *before* installing an incentive program. Too often incentives are viewed as a means for compensating for management weaknesses. This attitude can only lead to disaster.

Before making a decision to develop an incentive system a careful assessment of timing must be made. Is administration willing to make a long term commitment to the program and are they capable of carrying it out? Does a sound program of management already exist to act as the foundation for the incentive system? Does a climate of trust and respect exist between employees and management? Are objectives clearly defined? Are there impending events that will affect the success of the program? Can a mechanism be developed to assess incentive success and weaknesses?

Proper implementation and maintenance of an incentive system is also essential to its success. The involvement of all personnel from the board on down is important. But it is also important to involve these people as well as outside consultants where they can make an effective contribution. Chapter 8 concentrates on the roles of people from within and outside the organization. The chapter also emphasizes the importance of properly marketing the incentive system before and during its operation. Finally, the chapter emphasizes that frustration can result if employees want to reduce costs but can't because they lack the personal ability and outside support to do so. Proper training of employees in methods improvement and the availability of an industrial engineer to help them can prevent this frustration.

In order to properly maintain an incentive system it is necessary to detect and if possible predict the occurrence of problems that would damage its effectiveness. Two kinds of evaluation can be used to do this: continuous and periodic. Continuous evaluations permit detection of problems as they arise and thereby serve as the major method of assuring proper maintenance of the system. Periodic evaluations are useful for those changes that occur slowly but may in the long run have major effects on the system.

Both of these evaluations revolve around specification of objectives for the incentive system to achieve, measurement of the degree to which these objectives have been achieved, comparison of desired and actual performance, a decision on whether to change the system, and selection of a method to do so.

Specific advise on how to develop and implement these evaluation methods is given in Chapter 9.

One of the primary objectives of this monograph is to stress the importance of not viewing incentive systems as a gimmick. They possess valuable potential for reducing or containing costs if properly developed and administered, but management must be willing to pay the price of doing both well.

In line with this assessment, we suggest that these investigations of incentive systems be expanded into the design, implementation and evaluation of several pilot incentive programs that are based around the theoretical underpinnings of human motivation and the practical needs and unique characteristics of the health care field. Proper evaluation would require analysis of "control" as well as "experimental" settings. The costs would not be small but will justify the investment considering the number of institutions currently engaged in experiments with employee incentive. In preparation for the suggested experimentation criteria of evaluation should be established that will insure transferability of results to other hospital.

Chapter 2

Need for Improved Productivity in Hospitals

A great deal of the current literature in the hospital journals as well as much of the discussion on a national policy level has taken, as a basic premise, the theory that hospitals are not as productive as they might be, that they are "inefficient", and that hospital costs are higher than they ought to be. Productivity, and the issues surrounding it, would appear to be therefore a major item of concern in the hospital field.

There are at least three reasons for this concern. The first, and most obvious, is simply that hospital costs are rising—rising in fact somewhat more rapidly than the costs of most other goods and services. Increases in hospital costs can be factored into various components: general inflation, increasing utilization, rising wage levels, changing staffing patterns, evolving technology, the prices hospitals must pay for supplies and equipment, costs of carrying accounts receivable for longer periods, etc. Together these factors, along with others, account for the cost increases we observe.

Some of these factors are within the control of the administrator, but some, like inflation, are obviously not. But, to the extent that any of the factors are, even in part, conrollable by the administrator in the individual hospital, the question of productivity or efficiency in management of the organization.

A second reason for the current concern about hospital productivity is the increasing visibility of and public interest in the operation of hospitals. Large third-party purchasers such as Blue Cross and other health insurance companies as well as government, labor unions, industrial firms and so on, to say nothing of the patients themselves, are becoming increasingly aware and critical of the product they are buying and the costs of producing it. Such groups are, as a result, becoming directly concerned with the production process in hospitals and are raising questions concerning efficiency. In addition, national programs such as Medicare, Medicaid, along with the various proposals for national health insurance imply an increasingly close scrutiny of hospital operations, and therefore, a more extensive review of the questions of productivity.

A final reason why increasing concerns about productivity are justified is inherent in the changing role of the hospital in society. As long as the purpose or goal of the hospital was to provide acute patient care for non-ambulatory patients admitted to the institution and cared for while there by staff physicians, the question as to how efficiently it was done was not likely to arise. As the hospital role is extended to include more outpatient and ambulatory care activities, more provision of care in sites other than the patient bed, and the assumption of a broader social role in such areas as drug abuse programs, well-baby clinics, family planning and counseling, etc., the questions of efficiency and productivity at once become more important and more complex.

As a result of the confluence of these forces, the decade of the Seventies will undoubtedly bring about much more, and hopefully much better discussion and examination of questions of productivity and efficiency in hospitals. The task of the hospital administrator in all of this is to assume the responsibility for insuring that any possible efficiencies in the hospital's productive activity that can be achieved are recognized and efforts made to attain them.

Just what is meant, then, by "productivity" and, in particular, "productivity in hospitals?" The word "productivity" is typically taken to mean the ratio of inputs to outputs. If ouputs can be increased with no corresponding increase in inputs, or if inputs can be reduced without adversely affecting outputs, a "gain in productivity" is said to have been realized.

Inputs consist of manpower, equipment, consumable supplies, and physical plant. Outputs consist of goods and services produced by the hospital. Both can be counted or quantified either in physical terms or in "value" terms—in terms of the price paid by the customer of the producer to obtain them.

A useful digression at this point involves a discussion of the relationship between productivity and concepts like "efficiency" and "effectiveness." When we speak of "efficiency" we are usually talking about production of a particular result with a minimum of effort, expense, or waste. Another way of looking at it is that the more that can be done for a given total cost, the more "efficient" the operation. "Effectiveness", on the other hand, has to do with *how well* something is done or how *useful* it is—almost a definition of quality. Thus,

an effective treatment of a temporary disability in a patient may be most inefficient. Similarly, an efficient method of staffing a nursing unit may result in quite ineffective patient care.

"Productivity" in hospitals results from a combination of efficiency and effectiveness in the process of providing the services involved.

Therefore, it is obvious how our current discussion of wage incentives in hospitals is directly related to these issues of productivity. Any incentive program can be viewed as a method by which the administrator spends some extra money in the form of rewards for performance in hopes of getting a return in the form of increased labor efficiency. He naturally anticipates that the return will be greater than the amount spent, and that the effectiveness of the hospital will increase.

But in this process, there are many slips twixt cup and lip. A significant number of these are associated with, or even inherent in, the structure and operation of the various incentive programs themselves. Much of the remainder of this report will be devoted to an examination of these. Some, however, have nothing to do with the incentive scheme itself, but are instead unavoidable concommitants of the production process in such a complex organization as the hospital.

In order to avoid some of these pitfalls or, at least, in order to recognize them when they appear in the path, administrators concerned with questions of hospital productivity generally and with incentive schemes in particular should be able to answer, in terms of their own particular organizational setting, the following questions:

—What is my hospital producing? What is its product?

—What is the nature of the production process currently in use? What combination of manpower, equipment, supplies, physical plant, etc. am I using?

—Since this is not the only possible combination, is it the "best"—the most efficient?

—If it is not, how can it most effectively be improved?

—If it is, what will be the effect on the total process of improving the efficiency of one input (e.g., manpower) and leaving the other inputs unchanged?

The remainder of this chapter will briefly examine some of these broad issues.

Any discussion of productivity must involve, in its early stages, a careful examination of the question, "What is it that the hospital produces?" The answer to this question is not at all obvious. For example, does the hospital produce medical care with all of its components or is the hospital producing only some segment of the total of medical care product? Does the hospital produce medical care at all or is it, instead, producing "raw materials" which someone else (e.g., the physician) uses to produce the final product? While the answer to these questions may vary from hospital to hospital, a clear and concise definition of the product or output is a prerequisite for a discussion of the efficiency of the production process.

Equally important is a thorough understanding on the part of the administrator of the existing combination of resources (inputs) in use and of the current "production technology." Few of the manpower or capital resources available to the hospital can be productive in and of themselves. It is only when they are combined in some way that production can take place.

It is the *combination* of various resources (manpower, equipment, supplies, etc.) which make production possible and it is the process of varying the relative proportions of these resources which is the administrator's "handle" on efficiency.

Since the very nature of an employee incentive program is to increase the amount or value of the inputs accounted for by the staff of the hospital and does not involve a change in the quantity of physical plant, equipment, etc. to be used, the incentives program has the effect of changing the combination of resources in use. The question then arises, "Is the new combination likely to be more or less efficient than the previous combination?"

Though the answer to this last question may seem obvious in the sense that "more is better than less", it is not—primarily do to the operation of the famous "law of diminishing returns." In essence what this law says is that the more of a particular resource used in the production process, ***relative to the quantity of the other inputs,*** the less will be the contribution to the process of each additional unit of the former.

The implications of this for the ensuing discussion of employee incentive programs are clear. A hospital should undertake to develop an incentive program for its employees:

1. Only if the overall organizational efficiency and effectiveness would be improved through the establishment of a new combination of resources involving proportionally more manpower input relative to the capital input;
2. Only if it is less expensive to adopt and operate the incentive program than it would be to hire additional employees; ***and,***
3. Only if productivity (the ratio of costs of inputs to value of outputs) will increase as a result.

These are not very restrictive conditions. It is quite possible that all three conditions will hold in most hospitals. They are not meant to discourage anyone from efforts in this direction. They are offered only as grist for the administrator's mill—grist which, if added early in the process, will greatly improve the quality of the resulting flour.

Chapter 3

Characteristics of Hospitals That Affect Incentive Systems Operations

Throughout this monograph, a number of theoretical and practical arguments will be offered for the usefulness or lack of usefulness of wage incentive schemes in hospitals. Most of the arguments are predicated on the assumption that similar approaches have either worked or have not worked in other kinds of industry, and much of the evidence arises in those settings.

It is clear, however, that the hospital is a unique social organism and that the job of hospital administration is a unique social activity. The purpose of this chapter will be to examine some of those unique aspects and to attempt to understand some of the nuances of wage incentive schemes when they are applied in that environment.

Perhaps the most important attribute of the hospital insofar as wage incentive schemes of their applicability are concerned is the not-for-profit nature of many of them. Most hospitals do not have a profit test (or market test), in the usual sense of the word, available to them in order to estimate or evaluate their performance. It is this characteristic that will underlie much of our subsequent discussion and its influence should be kept constantly in mind.

Basically, there are four characteristics of hospitals which will influence the effectiveness of a wage incentive scheme. The first, and perhaps the most obvious, is that the product of the hospital is not easily defined and/or measured. The "units of output" of the hospital are not easily defined or counted. As a result of this, the relationship between the process or the activity in the hospital for which the wage incentive scheme is designed to reward and the outcome or product of the hospital is difficult to describe. In the standard manufacturing setting, it is usually possible either to define a unit of output in an unambiguous way and to reward employees for producing more and penalize them for producing less of this unit of output; or else it is possible to define a relationship (as in the case of the sales or marketing department) between the activities of the department and the outcome which those activities produce (in this case we would be talking about market share of total gross sales).

In the hospital, this is not so easy. Frequently the amount of effort and time spent on a patient is unrelated to the "quantity" of patient care produced for that patient regardless of how the quantity is measured.

Another characteristic of the hospital which will affect the usefulness and effectiveness of a wage incentive scheme is the nature of the production process itself. When a well-defined process exists and the units of production move along an assembly line, not only is the quantity of work produced (and the relationship of that activity to the total output) well understood, as in the case of a manufacturing industry, but also the interrelationships between what one of the workers does and what all the other workers do is relatively easy to understand. If a particular worker has not put the right frame under a car, a subsequent worker will not be able to attach the correct bumper. But the reason for the inability of the second man to perform his duty will be relatively straightforward.

In the hospital, no such neat relationship exists. There is no well recognized and routinized production process. As a result, the interrelationship of the various activities (nursing, pathology, x-ray, dietary, etc.) is a very fuzzy one. Furthermore, because of the "job shop" nature of the hospital activities as contrasted to the production line model, there are unavoidable large standby costs associated with having a particular department ready to serve but having no activity for it to perform at a particular point in time. These standby costs are made more serious by scheduling and sequencing problems which inevitably arise.

How shall the wage incentive scheme reward employees who must wait for other employees to do their work? How shall it reward those who are in standby capacities? It is important to recognize here that those employees waiting for work to arrive may actually be performing just the function for which they have been employed and thus the wage incentive scheme should continue to reward them. Note, however, that a scheme which is related to quantity of output will not accomplish this.

For example, it is certainly not necessary, even in the

most efficient hospital, for the technologist in the chemistry lab to be performing tests for eight hours every day. Some of the time she will be waiting for specimens to arrive, some times there will simply be no requests pending. Yet she must be available for "Stat" work at all times. What sort of incentive program will provide her with both rewards and positive motivation without, at the same time, penalizing her for "standing around" despite the fact that her job requires it?

It is worth noting that not only is a thorough understanding of these factors essential prior to considering an incentive program for a hospital, but such an understanding has value in and of itself. The systems analysis and redesign which antedates the installation of the incentive scheme will likely improve the operation of the hospital—make it more orderly and understandable—even if the incentive program is not adopted. An example of this is the standard costs and standard procedures which are required in many of the team-oriented incentive programs. Development of such standards, either for a particular hospital or a group of hospitals, will serve a most useful purpose for administration.

The third characteristic of hospitals which will modify or mute the effectiveness of a wage incentive scheme in a hospital is the quality and/or service orientation of many hospitals. Many studies have been done which indicate that hospital employees are concerned not so much with efficiency as with service; not so much with "turning out the work" as with the personal relationships involved; not so much with quantity as with quality. Frequently the philosophy or the orientation of the hospital is related to this phenomenon and a wage incentive scheme in a hospital must take this into account.

"Efficiency" is often seen as an alternative to quality. This may or may not be the case in a particular setting, but a wage incentive scheme in a hospital must be prepared to cope with this sort of real or imagined trade-off.

A final characteristic of the hospital which is relevant to wage incentive scheme discussions is related closely with the third. Much of the staff of the hospital is "professional." This means, by and large, that whether real or imagined, there are important attributes to the job being performed which have nothing to do directly with the welfare of the organization in which the job is being done but relate much more closely to the status and autonomy of the particular group of people who perform this function. That is, it may be important that an incentive scheme reward nurses for doing what nurses, as professionals, determine should be done rather than reward them for what an industrial engineer thinks they ought to be doing.

For example, inhalation therapy may be well defined in a technological sense. It may be quite possible to measure and compute the amount of supplies and equipment, the amount of labor, etc. needed for a particular regimen of inhalation therapy. A wage incentive scheme could be devised to reward inhalation therapists for providing their therapy in the most efficient and least costly manner possible.

But the inhalation therapist may have a very different idea concerning their activity. They may see the tight controls imposed on their activities as a result of the wage incentive scheme as being "unprofessional" in that it limits their sphere of action to that which is described by some outsider and does not allow them to exercise their professional prerogative concerning their own activities.

Furthermore, it may very well be that a particular group in a hospital may see higher wages as a reward for or evidence of their professional standing. They may, therefore, strive for higher wages even though these result in higher costs.

An incentive scheme related to cost effectiveness would therefore penalize these employees for this activity and would result in a built in paradox.

What are the implications then, of these attributes for a wage incentive scheme in a hospital? There are obvious needs for proxies or substitutes for the typical profit or output goals which frequently are used as a basis for reward under wage incentive schemes. Since we can't measure output or product in the hospital directly we can't easily base our incentive scheme on it. As a result, such common bases for a similar scheme in industry such as profitability, sales, profit margin, etc., are not readily available in a hospital. Since we can't describe a unique technological relationship between effort and outcome, we can't blithely base a wage incentive program on the quantity of inputs either. Thus, we must be cautious in the hospital about using only such ordinary measures as number of manhours, or number of procedures performed or amount of supplies consumed as a basis for our scheme.

Since frequently new technology is adopted in the interest of quality rather than for cost-saving or efficiency considerations, hospital administrators might be ill-advised to base an incentive program on capital-labor ratios as is sometimes done in industry. This latter point deserves some additional discussion.

Suppose that a hospital is using a standard procedure for taking temperatures and that, at the appointed time nurse aides with charts of thermometers go up and down corridors inserting the thermometers in patients' mouths returning some time later to read them and collect the thermometers, chart the temperatures and send the thermometers to a central supply location for them to be sterilized and recycled. Suppose further that an incentive scheme is, at least in part, based on temperature taking as one of the activities for the nurse aides. If a technological advance such as electronic thermometers is inserted into this process, the nurse aides will no longer be able to take the temperatures in the same sequence (indeed, it may even take them longer

to accomplish this task), the cost of supplies will be higher, and the capital investment in the thermocouples will be much greater than the previous investment in thermometers. Yet, such advances are frequently introduced into hospitals in the interest of improving quality or making a better technology available. As a result of this, however, a wage incentive scheme tied to a capital-labor ratio or to a unit of output per unit time must be modified or it may be subverted by such a "quality" advance.

As mentioned above, because of the interrelationships involved in the hospital production process and the necessity of having some groups of employees standing by waiting for other employees to complete their tasks coupled with the difficulty of scheduling and sequencing, incentive programs in hospitals can be self defeating purely on the basis of the work flow in the hospital itself.

Thus, we are faced with the necessity of developing proxies or substitutes for type of product, technology, quality, and cooperation (as well as for efficiency) which takes into account the unique attributes of the hospital and at the same time is closely and positively related to overall hospital goals.

As we have intimated, the purpose of an incentive program in industry is to encourage specific employee behavior which is supportive of and contributes to management goals. In hospitals, however, the specific behavior which results in the greatest productivity may not be obvious to administration both because of the characteristics of the hospital which were discussed earlier, notably the the professional stature of some of the employee groups and the difficulty of defining the product or the process as it relates to the overall goal of "good health".

The ideal incentive program in a hospital should thus be designed to reward employees for *functional behavior which results in added benefit for the hospital itself, or the physicians, or the patient, or the community, or some combination of these groups.* But what is functional can perhaps not be adequately determined by management except by use of proxies as discussed above and the specification of detailed patterns of behavior with reference to manhours, supplies, procedures, capital investment and so forth may best be left to functionaries. What are then some of the proxies which hospital administrators could use in various combinations upon which to base incentive payments?

1. In some hospitals, line item budgets associated with individual cost-generating activities within the hospital (including nursing units) have been developed. It might be possible to establish a wage incentive scheme which related rewards to performance with respect to these budgeted line items. This, naturally, would require significant forethought on the part of administration as well as on the part of individual functionaries with respect to program development, personnel and capital budgeting, and work load projections.

2. It might be possible to base a wage incentive scheme on some measure of manpower cost per patient day adjusted for workload. This would, naturally, be more useful in departments where direct patient contact is involved (notably nursing) than it would in departments which are more oriented towards service or towards support of other hospital activities. Measures of indices of patients' degree of illness have been developed and some hospitals use such indices to enable them to more adequately staffed for varying workload. Such indices coupled with a cost measure (perhaps manpower cost only or perhaps some combination of payroll expense and supply expense) might form the basis of a wage incentive scheme. Such a scheme would be directed toward rewarding personnel for the amount of effort put forth relative to that required in the care of the number and degree of illness of the patients.

3. It might also be possible to develop a wage incentive scheme which was based on some combination of length of stay and census either by the seriousness of the condition of the patients or by diagnosis. This would not be unlike 2 above, but it might be somewhat more difficult to administer.

4. Perhaps a wage incentive scheme based on arbitrary quality standards professionally determined (for example, some version of Joint Commission on the Accreditation of Hospitals standards or some version of the utilization review activity) could be used. This, once established, would provide an on-going way of evaluating employee performance and rewarding it appropriately, but it would have the disadvantage of being subject to complete revision in the face of either changing demand or changing technology.

5. One of the measures which appeals to us deals with the level of patient satisfaction or alternatively, the measure of physician satisfaction, which is generated by the activity. If the hospital views as its "customers" either the patients or the doctors and sees its role as involving, at least in part, the provision of what these groups of people "want", then a measure of their satisfaction related to individual departments in the hospital would provide a proxy for a profitability or market share measure.

6. Related to this, a hospital might consider a set of measures which included not only the clinical and technical aspects of the care rendered, but also took account of the personal and human components. This might extend beyond the patient to family members, etc., who become quite deeply involved in the process of the delivery hospital care to their hospitalized relative.

7. A prospect that is fascinating is the combination of some or all of the "proxies" suggested into a "group profile" department by department which would provide a measure of total performance both in a quantitative as well as a qualitative sense and could be used as the

basis for a wage incentive scheme which would be designed particularly to reward employees for "functional" behavior in the sense discussed above.

It is important, in this context, to note that some hospital departments (for example, the laundry or the dietary departments) may be very like their industrial counterparts and thus a standard type of incentive program—with all its strength and weaknesses—could be used in those departments. Furthermore, in some hospital departments (for example, the pharmacy) it may be possible to use a profitability criterion. Finally, some (example, personnel) may not fit any of these patterns and may require the development of kinds of standards, perhaps related to amount and quality of service to other departments.

Furthermore, it is important at this stage to note that, in the determination of which wage incentive scheme, if any, is appropriate, groups such as pathologists, radiologists and chiefs of various clinical services must and should be involved at an early stage. These hospital based physicians will play a very important part in the total picture of the wage incentive scheme in the hospital and their input will prove valuable at all stages in its development.

As a result of our looking at the unique characteristics of the hospital and at the history and status of wage incentive schemes in industry, we have come to two tentative conclusions. First, it is not likely that a slavish application of industrial type wage incentive schemes to the hospital will be very likely to succeed. Second, it is well within the realm of possibility that a wage incentive scheme tailored specifically for hospitals and taking into account the unique characteristics as well as the endogenously defined functional relationships in hospitals might provide a useful and reliable basis on which individual or departmental effort would be rewarded and through which incentives might be provided to increase productivity and performance of hospital personnel.

It is of utmost importance, as these approaches are developed and tried, that administrators exchange information and impressions, that interhospital comparisons be made, and that all hospitals involved cooperate in the development of standards and techniques. Without this cooperation, a fragmented, uncoordinated attack is inevitable and progress toward the goal of evolving and improving the system is seriously impeded.

Chapter 4

Review of Incentive Systems

INTRODUCTION TO INCENTIVE SYSTEMS

The objective of an incentive system is to improve effectiveness of the organization by rewarding employees in direct relation to increases in productivity. This improvement can occur through: a) the acceptance or identification of innovative changes in the operation of the organization, b) the reduction of waste, c) the alignment of employee goals with those of the organization (department/hospital), and d) the reduction of either employee management conflict, employee-department conflict, department-department conflict or union-management conflict. In essence, the employee is rewarded for working more efficiently, smarter and/or more cooperatively.

There are also potential negative results from an incentive program. Some incentives for instance, tend to obstruct rather than support innovation. Some can cause inter-employee conflict as well as inter-departmental, union-management, or employee-management conflict. Employees sometimes tend to limit production and sometimes attempts to "beat the system". "Beating the system" refers to ways, both legal and illegal, to earn more money than management feels is deserved for the effort expended. Undesirable results may also occur because of system "demoralization", a breakdown of equity in the incentive system due to lack of proper maintenance.

Some programs measure individual productivity: others measure productivity of a small group or team; still others measure productivity of a large group, sometimes including all employees in the organization. These systems will be described in more detail later. All incentive systems possess several common characteristics of operation. All have a standard level of productivity that has been established. All have a program to inform and stimulate employee interest in the program. All calculate incentive pay on the basis of comparison between performance of the achieving unit and the standard. If the productivity is better than standard both the employee and the organization benefit.

This chapter introduces several approaches to rewarding employees with money in direct proportion to their contribution to the organization. Recognizing that a hospital must tailor the incentive program to their own needs. This chaper should be viewed as a review of the range of alternatives with which a unique program can be constructed.

INDIVIDUAL INCENTIVE PLANS [1]

Purpose: These programs supplement an individual's basic wage earnings in direct proportion to the amount his productivity exceeds a standard level.

Standards: Standards are based on work measurement techniques such as time study and predetermined time systems.* Standards should not be based on past records or "best guesses". The resulting inaccuracies will inevitably lead to unfair payments (either large or small) to employees and a resulting disenchantment with the system. The standards are typically described in terms of either physical units of production or service. Each time that a method changes, the standard must be modified. A standard is needed for each unit of production. The product must be easily identified and measurable.

Motivational Influence: At first glance, the individual incentive program appears to have the greatest influence on worker effort,[2] because the amount of effort that an employee puts into his job is directly related to the amount of money that he gets. However, there are other forces that tend to offset this positive influence. For instance, employees may not produce far beyond the standard level, if they believe management will then change the standards to make it more difficult to earn bonus payments. Individual incentive systems also contribute to employee conflict. In fact, most of the psychological effects of individual incentives are negative ones.

Calculations: A detailed reporting system is needed to monitor production level. Employees can be compensated

* Predetermined time systems divide all activities into a set of basic movements. Each of these movements has had a standard time assigned to it in a laboratory setting. When attempting to identify a standard time for a task, the user identifies the type and frequency of basis motions involved and adds their standard times together. This eliminates the need for time studies of jobs.

on the basis of two calculations. The first, the "piece rate system" where employee production is measured in terms of number of units per time. The second, an employee may be also compensated on the basis of time that it takes him to produce a unit. This is called the "standard hour plan". Typically, employees receive a minimum wage level regardless of their production rate. Any production beyond that level will be compensated in terms of additional pay. Frequently an upper limit is based on the maximum amount of incentives earnings an employee can obtain over a given time. This upper earnings level is frequently placed around 20% to 30% of the individual's salary level. It discourages employees from trying to beat the system, but also reduces its motivational effectiveness.

Coverage: Coverage using the individual incentive plan is typically limited to departments where work units are easily identified and measurable. As a result, individual incentives are most commonly found in ancillary departments, such as laundry, housekeeping, and dietary. However, other departments such as laboratory and X-ray may be amenable to individual incentive payments. The plan typically only covers production employees. People not directly related to production are not normally eligible for such payments, although some plans offer a share of the incentive payment to employees in departments that may influence the production department's opportunity to earn incentive payment.

Applicability: Individual incentive programs are primarily applicable to highly repetitive tasks that are unique and separable. When jobs are not easily identifiable they are probably not amenable to individual incentive payments.

Several applications of individual incentives have been developed in hospitals. One potential application area is the medical records typing pool. An industrial engineer studies the typing pool function. He identifies the specific activities that take place and estimates the times required to accomplish each. He modifies these times to account for level of effort of the operator. The result is the standard time. Next a decision is made regarding how to relate payment to production. Typically minimum and maximum payment levels are developed, with intermediary payments being a function of production. Typists are paid according to their production rate modified by some index of quality.

Example: Suppose that in your hospital laundry, a person skilled in time study had determined that an "average" operator working at "normal" rate would require 10 minutes to press a doctor's coat. An individual incentive program could be developed that compensates the employee at 50¢ per coat. However, to compensate for breakdowns and other unavoidable delays, a minimum wage of $2.50 per hour would be paid regardless of production. Thus, if the operator were to produce 60 coats during an 8 hour day, she would be paid $30. If 40, 30, 20, or even zero coats per day, she would receive $20.

Benefits: The individual incentive program is easy to understand because incentive payments are related directly to output.

Pitfalls:

a. Some departments have tighter standards than others. This causes a drop in employee morale and creates conflict.

b. Administration costs are high because of the large amount of calculations needed to determine incentive payment.

c. Maintenance costs are high because standards must be revised frequently.

d. Individual incentives are a source of union discontent because they feel it inhibits the process of collective bargaining.

e. This system may lead to unionization if it creates a significant reduction in morale.

f. There is a tendency to try to beat the system. If it is successful, the incentive payments will skyrocket, leading possibly to an overall increase rather than reduction in costs.

g. The system tends to cause conflict between individuals and departments if the employee perceives his goals to be in conflict with the department's.

h. There is a tendency to destroy group rapport.

i. Individuals tend to seek easy jobs, leaving the more difficult ones for others.

j. The individual incentive program may cause department employees to create demand for services on which it is easy to earn an incentive but which are not required for patient care.

TEAM INCENTIVE SYSTEMS

Purpose: These programs supplement an employee's basic wage earnings in direct proportion to the extent the productivity of the team (of which he is a member) exceeds a predetermined standard level.

Standards: Standards are based on the effectiveness of the group. They can be set by time study or by the use of predetermined time systems. These standards typically are developed for jobs more complex and thus longer to complete than tasks appropriate for individual plans. It is easier to develop and use these standards because they do not have to be as precise as those developed for individual incentives.

Motivational Influence: The motivational influence of the team incentive system is high because the amount of effort put into a job is still closely related to the incentive payment received. The team incentive system also leads to greater rapport because the individuals are working toward a common goal, that of improved productivity of the team.

Calculations: A detailed reporting system is needed to identify the production level of the team. This reporting procedure should be operated by individuals who do not stand to benefit by the system. A limit is sometimes placed on the maximum incentive payment that an employee can earn. The argument in favor of a maximum limitation is that it keeps the team from trying to beat the system. It also, however, decreases the incentive to produce at a higher rate because the team cannot expect to be compensated in direct proportion to production at a higher level. The limit also acts as a hedge against demoralization, because no matter how bad the relationship between effort and production becomes, the employee cannot earn more than a maximum amount.

Coverage: Team Incentive systems are similar to individual ones in that they are applicable to jobs where the unit of production can be easily identified and measured. As a result this system is more amenable to use in departments such as laboratory, X-ray, dietary, laundry, and messenger service. The difference is that the function performed by the team should depend heavily upon the cooperative effort of all individuals on the team. Thus a typing pool might not be appropriate since the members function independently whereas an operating room team functions as a unit and so a team incentive might be appropriate.

Applicability: Output must be easy to identify and measure. The team incentives can be used in conjunction with a large group incentive system. However, the team must be the basic achieving unit. The team incentive concept has also been applied in hospitals. One area has been housekeeping. Standard times are set using either time study (for individual activities) or historical data for a gross measure of performance. Upper and lower limits are typically used in a manner similar to the individual program. Teams of housekeeping employees are assigned tasks in a manner that insures equal workload for all teams. Performance is then compared against desired levels and an incentive reward paid when performance exceeds standards. Note that the reward is split equally among team members. This leads to teamwork rather than competition.

Example: Suppose that the hospital dietary department has a tray preparation line in its central kitchen. A standard could be placed upon the number of trays prepared per unit time by the team. Whenever the team's production rate exceeds that standard level, the team is compensated in direct proportion to their production. Suppose the standard level of production is 200 trays per hour. Suppose the employees each receive a minimum wage of $1.50 per hour regardless of the production rate that they achieve. Suppose during this day of consideration, the group produces 250 trays in the first hour; 50 trays beyond the standard level. Suppose that each employee will be compensated at 2¢ per tray for each tray beyond the standard level. Then each employee will receive $1.00 extra pay for that hour's work.

Benefits: The employees tend to work toward group goals, so employee conflict is reduced. Individual standards are not needed thus reducing administration costs.

Pitfalls: Employees will not want to do anything that may interfere with the ability of their group to earn high production incentives, therefore, they will not be inclined to assist other departments. As a result, a conflict typically arises between departments. This kind of incentive system may also create an artificial increase in the demand for services just as is the case with the individual incentive plan.

As with all monetary incentive systems that reward solely on the basis of production, quality may be sacrificed for higher production.

Finally, the pitfalls mentioned for the individual incentive systems generally hold for the team incentive system. However they do not appear to be as prevalent or have as great an impact here.

LARGE GROUP INCENTIVES

Purpose: These programs supplement an individual's basic earning in direct relation to improvement in productivity of some large group such as a department or whole hospital. While there are many variants of the plan, we have selected four which appear to represent the alternative philisophies. The Profit Sharing program is selected because of its simplicity and because it appears to be the most widely accepted monetary incentive program in industry today. The Scanlon Plan is selected because it has several characteristics that create greater employee involvement and innovation. The Value Added (Rucker) Plan and the Cost Savings Sharing Plan are selected because their methods of calculating payout may be particularly appropriate in the health field.

Under Large Group Incentives we include both departmental wide and plant wide programs. While the relative advantages and disadvantages of the incentive programs are the same regardless of which way they are used, there are important differences in effect of departmental versus plant wide programs in general. First, a departmental program may be a more effective motivator because effort is more closely related to payment than in the plant wide. However, animosities will be created between departments if some are on incentive and others are not, or if one department earns more incentives than another.

PROFIT SHARING

Purpose: This program supplements basic wage earnings of employees if it is justified in terms of an increase in organizational profit.

Standards: The standard profit figure is based on past profit data. Standards are not needed on all services. Analysis of data should be done by an independent organization.

Motivational Influence: The worker's influence on organizational profit can be offset by many factors not under his control. As a result, profit sharing is sometimes combined with small group incentives. What motivation does exist in profit sharing will be enhanced if payment is made in cash rather than deferred. Frequent payoffs act as a positive motivator.

Coverage: All personnel can be covered by a profit sharing plan.

Applicability: While profit sharing does not appear to be applicable in its purest sense on a hospital wide basis, variations of it have been applied in several institutions. With the inevitably greater involvement of the federal government in the health care field, new schemes of reimbursement may be developed in the future that would make profit sharing in its pure sense a very meaningful approach to productivity improvement. It is also possible to make modifications in the formula while maintaining the essential concepts of profit sharing.

Example: Suppose a pharmacy department's profit for a standard year is $100,000. In the last year their profit was $120,000. The increase of $20,000 in profit will be shared by the hospital and pharmacy employees according to some predetermined formula such as 40% for employees, 30% for hospitals and 30% for the consumer.

Benefits: Payoff in the profit sharing program is based on the competitive welfare of the organization. Profit sharing can lead to material and supplies savings. Automation is more readily accepted. Employee friction is reduced because employees are working towards a common goal. Changes are more readily accepted by employees. Employees tend to make a long term commitment to the organization if bonus payments are deferred. The organization has no fixed commitments. Payoffs are based on the well being of the institution. Cost of installation is low.

Pitfalls: The profit sharing payoff to the employee is not directly related to effort. Many other factors can be involved including price reductions, material cost rise or wage cost increases. Profit sharing does not appear to be as effective in resolving labor/management problems as does the Scanlon (Labor Saving) Plan, as discussed on this page. On the other hand it does not create the morale problems of the individual incentive. Profit sharing payments are rarely made more frequently than quarterly. As a result the relationship between employee effort and payment is low. Employees will begin to question expenses for nursing schools and other kinds of profit reducing services.

LABOR SAVINGS (SCANLON PLAN)

The Scanlon Plan is unique in that if formally builds in two types of incentives: monetary and psychological. Employees are encouraged to participate in decision making at all organizational levels, typically employee-management committees are developed to review suggestions for improved operation. These committees are given the authority to implement suggestions requiring a minimal level of investment. More expensive suggestions are referred to a screening committee composed of elected employee representatives and top level management. The decisions of this committee frequently require investigation of the organization's financial books to assess the desirability of such investments. In addition, other sensitive topics are frequently discussed. As a result, this committee is normally joined by a mediator to insure that the inevitable conflicts lead to positive ends.

Standards: Payoff to the employee is based on reduction in the percentage of the total product revenue involved in paying labor costs. This standard ratio is based on historical data. When this percentage is reduced the difference in total dollars is returned to the employee. Frequently, 25% of this payment is placed in reserve until the end of the year; the other 75% is given to the employee immediately. An individual's share is based on a percentage of quality where it is possible to do so.

Coverage: All personnel can be covered, although frequently only production related employees are covered.

Applicability: The technique is reputed to work best in a unionized organization so that employee interests can be effectively represented to management. Management should believe in the concept of employee participation in and review of management decisions since these are both essential components of the incentive plan.

Development of the necessary labor-revenue figures by product might be difficult in hospitals since this requires accurate cost assignment to individual patient classes. Such figures might be available by service such as medical, surgical, obstetrical, etc.

We know of no installation of Scanlon Plans in hospitals. However the nonmonetary incentive components of the plan appear to be adopted in varying degrees in many hospitals. These most frequently occur in hospitals employing industrial engineers. Here the function of the committee is to identify the problem and work with the industrial engineers toward their solutions. Rarely, however, is the depth of participation evidenced that is required in the Scanlon Plan.

Example: Suppose that on a hospital wide basis, standard revenue (determined by one of the methods described in Chapter 6) is $1,000,000 and standard

labor costs are $600,000. The standard ratio is .60. During the last period labor costs were $500,000 and revenue $900,000. The actual ratio is .555. This is a 7.5% improvement. Thus a bonus of 7.51% of $500,000 = $37,500 is paid, 75% goes directly to the employees, 25% is held in reserve. The consumer is saved $62,500.

Benefits: In addition, the Scanlon Plan leads to even better:

1. Labor management cooperation.
2. Acceptance of innovations by the employee.
3. Communication between employee and manage ment.

The program also tends to weed out poor managers because their weaknesses are brought to light in the employee-management meetings.

All large group plans have the following benefits:

1. Reduction of conflict.
2. Acceptance of change.
3. Reduced maintenance cost over individual and team plans.

Pitfalls: All large group incentive plans have several common pitfalls:

1. They are all based on a specific patient mix and must be modified when this changes.
2. The relation between individual effort and group productivity is not as direct as in the individual plans so motivation is theoretically less.
3. Savings made on a single innovation can be paid repeatedly.

In addition, the Scanlon Plan's calculations are subject to demoralization if the ratio is not adjusted for changes in material cost, supply cost, etc. Employee payments can be influenced by census rather than effort. Finally, there is no incentive to reduce supply cost.

COST SAVINGS SHARING

Standards: Standards are calculated on material and labor costs for a given patient mix. Since they include only costs that can be influenced by employee actions, they are referred to as "Standard controllable costs." The standard needs to be modified periodically to account for inflation and changes in patient mix. When historical standards are used, they should be based on performance of similar institutions, rather than on internal historical data.

Motivational Influence: The more frequent the payments, the more incentive the program has. Nonmonetary motivators can be included by adding suggestion and participative management components similar to those offered by the Scanlon Plan.

Coverage: All personnel can be covered but sometimes the degree of participation varies for different levels of the organization.

Applicability: The standards upon which payments are based appear to be particularly appropriate to the hospital because they are based on costs rather than revenue and because they include an incentive to reduce supply as well as labor cost.

Example: The literature reports on applications of the cost savings sharing programs on both a hospital wide and departmental basis. Their applications have included nearly every hospital department. Suppose that standard controllable costs, as established for the hospital, are $1,000,000. Suppose that through material and cost savings, the controllable costs of this hospital are reduced to $900,000. This is a 10% improvement over standard. Suppose total labor costs were $500,000. Then $50,000 in bonuses would be shared with the employees (500,000 × .10 = 50,000). The consumer saves $50,000.

Benefits: In addition to the general benefits of large group plans mentioned earlier, this plan protects employees from financial fluctuations beyond their control. It also is based around the concepts of cost rather than revenue or profit. In the non-profit health field this is a much more easily justified position.

Pitfalls: In addition to general pitfalls of large group plans, the cost savings sharing may lead to a decrease in savings with the addition of more fringe benefits. In addition, payments to employees sometimes occur when profits are low.

VALUE ADDED (RUCKER) PLAN

Standards: Payoff from this program is based upon the ratio $\frac{\text{Revenue-Material Cost}}{\text{Labor Cost}}$ for each service. The numerator is an estimate of the value added by the hospital to the service provided. This ratio must be modified with changes in patient mix or process. Fortunately, standards needed to be calculated only on gross departmental or service classification, such as obstetrics and geriatrics, where there are wide differences in the kinds of service performed.

Motivational Influence: This program motivates the employee to contain both labor and supply costs. Some feel that it also has a positive effect on quality of the service In this program, employees tend to focus on common organizational goals and thus reduce conflict.

Coverage: All employees are eligible to participate in this program.

Applicability: Where revenue is not directly related to costs this program may be quite applicable. However, if a standard were based on total hospital performance and if their revenue is a direct function of costs, the formula might be insensitive to cost reduction and therefore would not be an effective motivator. The program would appear (although no applications have been made

in hospitals) to be appropriate for departments since the insensitivities mentioned above would not be so great a problem.

Example: Suppose a blood bank had in the standard year: a labor cost of $60,000, controllable material cost of $10,000, and revenue of $100,000. In the next year labor cost reduced to $50,000 with all other costs and revenues remaining the same. The standard ratio would be:

$$\frac{100{,}000 - 10{,}000}{60{,}000} = 1.5$$

The new ratio would be:

$$\frac{100{,}000 - 10{,}000}{50{,}000} = 1.8$$

The percent improvement in the ratio would be 16.67%. Hence, each employee would receive a 16.67% bonus on their basic wages.

Benefits: In addition to the general benefits of large group plans. This plan automatically adjusts to changes in: make or by decisions material price, price structure, and/or automation.

Pitfalls: In addition to the general pitfalls of large group plans, the percentage payoff from labor savings is greater than an equal reduction in material savings.

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Chapter 5

Nonmonetary Incentives

Thus far the monograph has been concerned with monetary incentive systems, which rely on the possibility of extra earnings to induce extra employee effort. Incentive systems of this type were developed at the turn of the century; for several decades they were the only kind of incentive system used or even imagined, and they still play an important role in the field of employee motivation. Hospitals that have used incentive systems have so far confined themselves to the monetary variety. Over the past couple decades, however, a new variety of incentive systems has emerged. Known as nonmonetary incentives, this new breed remains untried in the hospital field, but it is receiving increasing attention in industry and certainly merits the attention of any hospital administrator concerned about building more motivation into his organization.

Theories of motivation have undergone considerable variation over the centuries.[1] When wealth was primarily derived from agriculture that could profitably use slave labor, compulsion was reviewed as the paramount way of getting men to work. Later, as wealth depended more and more on factory production, where slavery could not be readily adapted, monetary reward came to be regarded as the primary motivator. But this transformation in the notion of why men work did not come easily. In order to effect it, classical economists had to discourse at length and with some exaggeration on the value of free labor over slavery, for the motivational merits of force had become deeply rooted in men's minds.

Once achieved, however, the victory was total. Through most of the nineteenth century and into the twentieth, the worker was viewed as being motivated by money and little else. "Economic Man," constantly calculating in order to maximize his income, monopolized motivation theory. Understanding why men worked was simple; they worked for money. This theory of man and work was clearly paramount in the mind of Frederick Taylor and in the early incentive systems that he pioneered. He said of one worker that "A penny looks the size of a cartwheel to him,"[2] and he was sure that workers would embrace his new scientific management as soon as they learned that it would bring them more money.

Since Taylor worked at the turn of the century when the monetary motive was regarded as the sole incentive to work, it is not surprising that he relied on its effect so completely. Indeed, many people still think money is and should be the paramount reward. A little reflection, however, should convince us otherwise. We would hardly vote for a presidential candidate who said he was primarily interested in the money to be made in that office. A surgeon with a similar outlook would be similarly avoided. One could easily compile a list of jobs where nonmonetary motives are felt to be more appropriate.

Experience also suggests that a great deal of work and extraordinary effort can be elicited without any direct or immediate payment. For years young Americans have done an enormous amount of work in order to earn college degrees that will hopefully bring them good jobs in the future. In other words, they are sacrificing immediate monetary rewards for advancement over the long term, suggesting that the possibility that advancement must be reckoned as a potent motivator in certain circumstances.

Other examples readily suggest other motivators. Athletes, for example, commonly feel that they play better before a home crowd where they have encouragement and support of the fans. Their play is hindered when the crowd is "down on them". They often put forth their greatest effort when there is the most to gain in the way of recognition and public adulation.

The field of nonmoneary incentives is based on the premise that work is universally affected by motivators similar to those mentioned above. A friendlier work place, upgrading of his job to include more important tasks and greater responsibility, affording more opportunity for advancement, and sincere recognition for achievement are all examples of nonmonetary factors that carry a potential for getting people to work wih greater commitment and effectiveness. It is the systematic use of these and similar factors that defines the arena of non-moneary incentives. Though it is not

[1] *The New Industrial State*, John Kenneth Galbraith, Signet Books, New York, 1968, p. 151 ff.

[2] *Industrial Sociology*, Delbert M[illegible] and William Form, Harper and Row, New York, 1964, p. 651.

possible or appropriate here to treat in detail all of the theory and research underlying the evolution of non-monetary incentives, we will touch on some of the highlights of this development in order to convey as fully as possible an idea of the principles involved and the possibility of applying this kind of incentive in the hospital field.[3]

The starting point of non-monetary incentives lies with the work of Elton Mayo. It was under his direction that the well known Hawthorne study was conducted in the early thirties. In his study, Mayo's team of investigators observed at close range an incentive plan that paid wages of individuals according to their output, and paid a bonus to a work group depending on departmental output. Management assumed that the piecework arrangement assured that each worker would produce at his maximum in order to optimize wages, and that each would further encourage top production by the others and the group as a whole in order to secure the largest possible group bonus.

Mayo's research team concluded that management was mistaken in all these asumptions. Through many weeks of intensive close-up observation of a department, the investigators found that the workers had their own idea of what constituted a fair day's work.

They restricted their own output to this group approved standard, and exerted a variety of pressures on other workers to keep them from exceeding it. Over-producers were ridiculed as "rate busters" for making their fellow workers look bad and giving management reason to suspect the official incentive system standard of being too low and thus raising it.

Mayo concluded that output was being restricted because workers reacted to management policies not as isolated individuals but as members of a coherent work group with its own informal rules, attitudes and goals. For Mayo, this meant that the economic model of man as an independent, calculating maximizer of his own earnings could no longer be applied to man at work. The worker, according to Mayo, wanted recognition, the esteem of his fellows, belongingness, and other rewards of this kind just as much as money, and his behavior was subject to group influence as much as individual, personal preferences. The worker, in short, was infinitely more complicated than management theory had assumed, and new policies would have to be formulated in response to this complexity. Above all Mayo insisted that, in order to successfully motivate workers, organizations would have to work with and through the work groups formed by employees.

In a series of studies Mayo and his associates gathered impressive evidence that absenteeism and turnover could be reduced and effectiveness increased where management supported group solidarity among employees and then enlisted the group's spontaneous cooperation. New employees should be made to feel at home among their fellow workers, they should be shown how their own contribution fit in with the overall operation, and there should be communication up and down the line. Where these conditions existed, work would be done more effectively and efficiently, and it was management's job to create the kind of organizational climate where these conditions did obtain. This could be done by training supervisors in human relations techniques as well as by group discussions, problem-solving sessions and similar techniques.

Elton Mayo had created a new approach to work and motivation known as human relations, or nonmonetary motivation. Its emphasis was on man's social needs and the satisfaction he derives from being part of a group where his contribution wins him some measure of esteem and status. In recent years this has been supplemented by the exploration of the psychic needs man attempts to satisfy in the course of his work. Douglas McGregor has made an influential contribution to management theory in this area.[4] McGregor argues that management has been and still is oriented toward an obsolete view of the worker as uninterested, uninspired, unambitious, and unwilling in his performance on the job. To the extent that workers actually are like this, he contended, it is because management has failed to integrate the individual into the organization and to engage his full creative potential.[5]

According to McGregor, man is a restless animal. As soon as he achieves what he wants, he tires of it and formulates a new goal. This characteristic of man is clear from infancy on. Furthermore, man's needs tend to form a hierarchy from lower needs to higher. His most basic needs have to do with survival; he must have food, water, and protection from the elements and other animals; he must have sexual gratification and some measure of security against an uncertain tomorrow. These are the basics and, at earlier points in history, man thought of little else. But once these needs are satisfied, they no longer have the capacity to motivate. If deprived of air a man will struggle frantically to get it, but men seldom go about their daily tasks with vigor and enthusiasm because there is plenty of air to breathe. Similarly, a salary level of X plus one as opposed to X minus one, agreed to six months ago, is not likely to have a great effect on how a man feels about his work today at 10 o'clock in the morning.

What a man brings with him to work today, and has with him continuously by reason of his humanity, are the higher level social and psychological needs. An affluent society such as ours usually takes care of the lower level physiological and security needs, and where it does

[3] *The Evolution of Managerial Philosophies*, Delbert Miller and William Form, Industrial Sociology, Harper & Row, 1964, pp. 661–671.

[4] *The Human Side of Enterprise*, Douglas McGregor, McGraw-Hill, 1960.

[5] Theory X: The Traditional View of Direction and Control, Douglas McGregor, in *People and Productivity*, ed. Robert Sutermeister, McGraw-Hill, New York, 1969, p. 188.

not, the worker sees himself as discriminated against, and is accordingly, hard to motivate by any means. The social and psychological needs, therefore, are the ones that offer the best potential for worker motivation. A man at his job has social needs for belonging, for acceptance, and for friendship. Other things being equal, a cohesive work group that offers these things will be more effective than a group lacking in solidarity. But even higher than these social needs are psychological needs. A man needs a certain amount of autonomy in his job as opposed to constant control and continuous direction. He must have confidence in his working ability as a basis for his confidence as a person. It is important for him to keep learning and to keep growing intellectually; a man who is no longer learning is no longer using his most human capacity and is in an important sense no longer alive. A man must find status and self-esteem in his work; there must be the sense of achievement, recognition and appreciation. In a word, the job must afford self-fulfillment to the man who holds it, or the man will bring little enthusiasm or motivation to the job.

The job of management is to create conditions that will enable man to achieve his higher level needs. Where this is not done workers will be passive and indolent. For years traditional management has been so limiting as to prevent our seeing the possibilities in other management styles. The challenge to management is to break out its limited perspective and create an organization that will integrate and involve the worker and thus engage his full creative potential. McGregor holds that creativity is widespread through the organization and can contribute enormously to the enterprise if only utilized. The limits on involvement and motivation then are not those of the worker but those of management.

McGregor's theory of the worker and motivation depended heavily on the personality theory of Maslow, Jung, and Adler. All placed heavy emphasis on the opportunity for development and fulfillment. "The supreme goal of man," according to Jung, "is to fulfill himself as a creative, unique individual according to his own innate potentialities and within the limits of reality."[6] McGregor's role was to plant these ideas squarely in the world of organizational theory.

The theory has been supported by several studies of dissatisfied workers, most notably auto assembly line workers, who have long been known for low morale and indifferent performance. Separate studies by Blauner[7] and by Walker and Guest[8] pointed to a worker consensus on the sources of discontent. Workers had a distinct sense of and dislike for being over-controlled. The vast majority strongly resented the complete lack of autonomy in always reacting to the line rather than regulating the work pace to some degree themselves. They resented always being told what to do and never having the opportunity to give direction.

For this reason the investigators found widespread fantasizing by the workers about going into business themselves. Workers also resented the isolation of the line, complaining that one seldom got to meet or associate with fellow workers, even those only a few feet away. They disliked repeating only one or two tasks over and over again, in a routine that was so simple it required only a very short time to master, and they complained about having no control over the quality of the product produced. They despaired over the lack of opportunity, the lack of learning on the job and the dead-end nature of the work.

To support their conclusions Walker and Guest showed that workers with four or more tasks built into their jobs were much more satisfied than those with only one,[9] that utility men who worked various positions on the line were more satisfied than those who manned the same post day in and day out. Blauner supported similar conclusions by showing that workers in other industries appreciated what auto workers lacked. The chemical worker, for example, enjoyed the two-way communications customary in his work.[10] His status was enhanced when management asked his advice on something. He felt a rewarding sense of responsibility for the quality of the final product, and there was good opportunity to learn and be promoted. In short, the evidence supported the McGregor position that jobs affording little in the way of status, achievement, or recognition are not likely to win much commitment on the part of workers. Jobs that do fulfill these and the other social and psychological needs integrate the worker into the organization so that he identifies his own goals with those of the enterprise. The best known version of this position was put forth by Frederick Herzberg in 1966. In his *Work and the Nature of Man*,[11] Herzberg uses the model derived from Maslow and McGregor, dichotomizing man's goals into those that serve the body and those that serve the mind. Like his predecessors he feels that modern organizations must use the higher level motivators to enlist the commitment of present day workers. A man will be dissatisfied if the job does not enable him to meet his basic needs for a comfortable standard of living. But once these are met, the worker will derive little further satisfaction from them. Job satisfaction and motivation must come from the nature of the work itself. There has to be something about the work that makes it satisfying, if it is to be satisfying at all.

Herzberg demonstrated his point by showing that if you ask workers to recall something that made them feel good about their job and caused them to work harder or

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[6] *Work and the Nature of Man*, Frederick Herzberg, Work Publishing Co., New York, 1966, p. 13.

[7] *Alienation and Freedom*, Robert Blauner, University of Chicago Press, Chicago, 1964.

[8] The Man on the Assembly Line, Charles Walker and Robert Guest, in *People and Productivity*, ed. by Robert Sutermeister, 2nd edition, McGraw-Hill, 1969.

[9] Ibid, p. 228.

[10] Blauner, op. cit., pp. 146–148.

[11] Herzberg, op. cit.

more effectively, they most often report "higher need" kinds of events: recognition, achievement, etc.[12] Further, they can furnish examples of the specific instances of recognition or achievement and the specific instances of performances they led to. If you ask workers to discuss events leading to negative feelings and performance, they point to environmental factors such as wages, company policy, supervision, and so forth. Herzberg concluded that job satisfaction and motivation inheres in the work itself. "Satisfiers" with the power to motivate are in the nature of achievement, recognition, advancement, and job tasks that keep a man creating, innovating, and solving problems. Herzberg's work has been replicated and supported by numerous studies, including several in the hospital field. This is not to say that all behavioral scientists support his position; unanimity is seldom if ever achieved in the complex study of behavior. Herzberg has his opponents just as the other motivation theorists have theirs. It should be noted, however, that the nonmonetary approach, from the work of Mayo to that of Herzberg, with its emphasis on social and psychological incentives motivations, has won the broad support of influential organizational theorists.

March and Simon, for example, in their fundamental work in the field of organizational behavior, put strong emphasis on the social-psychological approach and its appropriateness for the modern organization. They hold that motivation in modern organizations will be considerably enhanced if its members identify with the organizational goals, and identification will be high under the following circumstances:[13]

1. If the prestige of the organization is high.
2. If there is frequent interaction among members of the organization.
3. If a large number of needs of the individual are satisfied in the organization.
4. If competition between members of the organization is minimized.

Peter Drucker has recently argued that we live more and more in a world of knowledge workers who see themselves as professionals.[14] He argues that motivation for such workers must come from the work itself rather than from traditional incentives of the monetary type.

In a more practical vein, the non-monetary approach was favorably reviewed by Fortune Magazine.[15] Based on interviews with a number of workers at various companies implementing these techniques, the article states that "remarkable things are happening to morale, productivity, and profits"[16] where management is "helping people to work together rather than in solitary competition, and to work together at more rewarding jobs . . . and encouraging participation rather than rote learning, replacing ritual obedience with a sense of self-control."[17] Adopting the nonmonetary view of the employee's potential, the Fortune article holds that "they can do more, and do it better, and contribute a flood of valuable ideas . . . they know more about their jobs than anyone else . . . and hardly any of their suggestions for improving methods are impractical."[18]

Thus far we have treated the theory of non-monetary motivation and the potential envisioned for it by its supporters. At this point it is appropriate to discuss the implementation of the approach. Such a discussion will be necessarily sketchy because a large variety of techniques can be included under the nonmonetary approach, some of them quite simple and others requiring the use of outside consultants or of staff experienced in the particular technique. In either case, whether implementation is on a small or large scale, it will be well to have a single staff man with primary responsibility.[19]

The primary element in any nonmonetary motivation system is communications. It is essential that people feel and be well informed about organization goals and policy if they are going to be effectively integrated into a system to implement them. In order to achieve this integration, supervisors should be properly utilized; they should be close to and have frequent contact with management, they should share in management status and privilege, and they shouldn't be bypassed in making or communicating decisions. The other key element in communications is the employee. The nineteenth century custom of coercing silence among workers overlooked the role workers can play in solving problems, coordinating efforts, and transmitting policy. Good communications demands a horizontal network as well as a clear channel from the top down. Where this exists employees will effectively pass information to each other.

Communications must also flow from the bottom to the top. Employees are in the best position to know a particular operation, and frequently have the clearest conception of its needs and problems. They are often reluctant to communicate their views to management because they feel it might reflect badly on fellow workers or supervisors, or simply because a habit of not communicating has built up over time. Perhaps the greatest block to communications in large organizations is the tendency to "get out of touch." To overcome these blocks management must promote a climate where suggestions for improvement don't imply criticism, where employees feel free to approach management with their feelings and

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[12] Ibid, chapter 12.

[13] James March and Herbert Simon, Organizations, New York, Wiley, 1958, pp. 65–66: quoted in Galbraith N.I.S. op. cit.

[14] Peter Drucker, *The Age of Discontinuity*, Harper and Row, New York, 1969, pp. 288 and 289.

[15] "It Pays to Wake Up the Blue-Collar Worker," Judson Gooding, Fortune, September 1970.

[16] Ibid, p. 133.

[17] Ibid, p. 169.

[18] P. 133.

[19] This suggestion as well as other ideas on implementing non-monetary incentives in the hospital are indebted to Leo B. Osterhaus, Ph.D., The Concepts of Human Relations and Their Application to Hospitals, Hospital Management, September 1967, pp. 58–59.

ideas. Suggestion boxes, periodic interviews with all employees, and questionnaire surveys on problems, attitudes, and difficulties are all useful in overcoming communications gaps.

In all aspects of nonmonetary incentives, the supervisory level is a vital link, so it is essential that supervisors be trained in the theory and methods of the approach. Once they have a fuller understanding of the motivations and attitudes of workers, they will be able to utilize nonmonetary motivators in a variety of settings. Books, training films, discussion groups, presentations by qualified staff or consultants, and appropriate courses in sociology or psychology are all useful in promoting an understanding of motivation among employees.

A more elaborate variant of the nonmonetary approach is job enrichment. This technique involves changing the content of jobs and thus the structure of relationships within the organization. The mechanics of the process call for several hours of brainstorming at the supervisory level, carried on with the firm conviction that selected jobs can be given a richer content of tasks and responsibilities. The brainstormers create a list of specific changes in jobs that will accomplish this objective. Proponents of job enrichment claim that a well organized effort of this kind at the supervisory level can make most jobs more interesting, more important, and more satisfying, and that this will result in reduced absenteeism and turnover, and improved job performance.

What the job enrichment approach involves is "... rearranging the parts of the job, pulling down responsibilities from above, pushing earlier work stages into the job, or pulling later work stages back."[20] Robert Ford gives a detailed account of how a job enrichment program was carried through on a wide scale at A.T.&T. with excellent results,[21] and similar successes have been reported at a variety of business organizations in recent years.[22]

Another approach that ought to be discussed here is the Scanlon Plan, which incorporates features of both monetary and nonmonetary incentives.

The monetary side of the system rests on the payment of a bonus based on holding labor costs in line with production, but from the outset the proponents of the plan agreed that the bonus would not yield results without the sociological side of the plan being carried through. This nonmonetary aspect of the system involves a process of producing and implementing suggestions on production improvement. Every department has a committee to discuss production problems and come up with solutions for them. The committee can be appointed or elected by department members, with the department supervisor being a member automatically. Many suggestions of the committee can be implemented without higher level management involvement. If a higher level approval is required, the suggestion goes to a screening committee with interdepartmental authority. The final approval, if required, comes from a top level committee composed of the head of the organization along with representatives from labor and management.

The committee system used in the Scanlon Plan embodies many non-monetary motivarors. It gives employees a chance to participate actively in the work processes that vitally affect their daily routines, and it gives the organization a chance to benefit from the know-how and ingenuity of the workers in solving problems. Suggestions in this system are not considered a bad reflection on the supervisor as they are sometimes felt to be in other circumstances, because worker innovation under the Scanlon Plan is accepted, expected, and encouraged. The system also recognizes the fact that one idea may not be feasible until joined by another idea. Individual suggestion systems often suffer from workers developing a proprietary interest in ideas and keeping them to themselves. This may well keep ideas from ever coming to fruition, and it could prevent the merger of two or several ideas that together could produce an important innovation.

The committee system of suggestions has other advantages over a pencil and paper system. Many people find it easier to express their ideas than write them down. They would find it much earier to mention an idea to their department representive than to explain it on paper. The give and take of the committee can sharpen inchoate ideas and correct those that have promise but need revision. The face to face encounter, and the feeling that the idea came from a committee where the workers are represented can mean the ready acceptance of an idea that would be resisted if imposed by fiat and without consultation.

When working properly the system generates a great deal of informal discussion both in and outside of committee with respect to production and costs. This discussion promotes cooperation since all members of the organization participate in any savings realized from innovation. It gives the worker a sense of participation since it is an ideal context for two way communications between management and the worker. Within this context the worker can air his ideas of organizational needs and required innovations, while management can transmit its own problems of costs, goals, and policies. In the process both management and the worker can gain a great deal; management about the details of a given part of the organization, the worker about the workings of the total enterprise and how his own contribution fits in. Employee knowledge of the cost problems of the organi-

[20] Motivation Through the Work Itself, Robert N. Ford, American Management Association, 1969, p. 157.
[21] Op. cit.
[22] Cf. *Men, Management and Morality*, Robert Golembiewski, McGraw-Hill, New York, 1965, p. 123 ff. and Judson Gooding, It Pays to Wake Up the Blue Collar Worker, Fortune, September 1970.

zation and grasp of its overall design and purpose can be viewed as important ingredients both of worker satisfaction and organizational effectiveness.

In conclusion, we have seen that the nonmonetary approach to motivation includes a variety of techniques, ranging from a simple greeting and knowing an employee by name to a complete restructuring of the organization. Regardless of the extent or complexity of the application, it is essential that the underlying premises of the method be understood. These premises basically point in the direction of a more democratic and cooperative pattern of management than has traditionally prevailed. Their implication is that it is necessary to let the employee participate more fully in the organization in order to enlist his commitment, and that detailed and one-sided planning of job tasks has made employees resentful about their lack of control or influence over the work process. The approach holds that the key motivators are challenge, recognition, responsibility and social relationships in work, and that management's primary motivational task is to build these into the work situation.

These basic assumpions of the nonmonetary approach involve a radical managerial viewpoint, and management must be prepared to change accordingly in order to make the nonmonetary approach work.

Chapter 6

Incentive System Selection

There is no single best incentive system for all situations. Therefore, it becomes extremely important to select the appropriate incentive system for the hospitals' unique needs and circumstances. The chapter will present a procedure for selecting an incentive system. It will revolve around four basic steps:

1. IDENTIFY ALTERNATIVE INCENTIVE SYSTEMS. We described three basic kinds of incentive systems, one is related to the individual, one related to teams and, one related to departmental or enterprise-wide operations. It should be again stressed that an enterprise does not necessarily mean the whole hospital. Under some circumstances it may be convenient to consider a single department, such as radiology, as an enterprise.

2. IDENTIFY THE OBJECTIVES YOU WOULD WANT TO SATISFY WITHIN AN INCENTIVE PROGRAM AND COMPARE THESE OBJECTIVES WITH THE CHARACTERISTICS OF THE ALTERNATIVE SYSTEMS AVAILABLE. Through careful consideration of what you hope to achieve with an incentive it may be possible to eliminate some alternative incentive systems. However, in doing so remember that not all objectives will be equally important. Figure 1 lists some possible objectives and indicators of the degree to which each of the alternative incentive systems identified satifies them. We will attempt to clarify the meaning of some of these objectives.

Innovation: Frequently employees have very good ideas on how to improve the operation of an organization. Management may wish to encourage these innovations. However, it may be equally important to encourage employees to disseminate their ideas.

Conflict Resolution Job Satisfaction: Management may wish to draw upon the strengths of their employees in improving the operation of their organization, it may be possible to have an incentive system lead in this direction.

Productivity Changes: There are two basic philosophies as far as these objectives are concerned. One would be to increase amount of services with the same staff and the same amount of materials. This would be appropriate in departments where demand tends to exceed supply of the services. However, in departments where demand is expected to remain essentially constant, and where an incerased production rate on the part of employees may serve no purpose, management may wish to emphasize a reduction in *costs* of operation in that department. In that case, savings on material and labor may be a more appropriate orientation than production increases.

Other Desirable Characteristics: Some managers may feel that an innovation suggested by an employee should receive a one time reward even though the benefits of that suggestion may carry through from year to year. The degree to which this is important should be considered under "one shot accomplishments paid once". "Payment only when the organization can afford it", may, also be an important characteristic. It should also be emphasized however, that the employee may be very productive during a time when because of low census or other reasons not under employee control, the hospital would prefer not to pay an incentive. The desirability of paying only during more affluent periods should therefore, be offset by the realization that employees expect to receive a reward when they work hard and not just when the organization can afford it.

Ease of Administration and Maintenance of Incentive Programs: Concerns the effort required to calculate payments to employees and the amount of standard revision necessary in order to maintain the system in an effective working order. Effort related to a payoff concerns the desirability of rewarding employees when they have put forth an excessive amount of effort. Figure 1, not only lists these objectives, but also lists the degree to which each of the incentive systems under consideration meet these possible objectives. The reader should feel free to add objectives to this list. Not all objectives will be equally important and so a system that completely satisfies the important but not the unimportant objectives will be much more viable than the one that partially satisfies all of them.

3. DESCRIBE THE HOSPITAL SITUATION TO WHICH METHODS WILL BE APPLIED USING

* The approach to be described here is adopted from the work of Lupton. See references at the end of the chapter.

THE FACTORS LISTED IN FIGURE 2. These factors essentially are an attempt to identify various descriptions of situations that will be useful in differentiating the potential applicability of alternative systems. Again, these are suggested descriptions and more may be added as needed. We will attempt to clarify appropriate ones on this list. Criterion number one, "relation of revenue to cost" is particularly important in the health care field because of the current reimbursement mechanisms. Some of the incentive systems base their calculations on the assumption that in the organization being considered, revenue is not a percentage of cost but is based on a fixed price. If the costs are reduced, the difference between revenue and costs will increase and this is the basis upon which an incentive is paid in the value added system. The degree to which this assumption holds may vary depending upon the situation to which you plan on applying the system. For instance, this criterion might be well satisfied in a radiology department where the prices charged for X-rays are fixed and not directly related to the costs of providing the service.

Lengths of Task: Relates to the amount of time required in order to accomplish a fixed task. "Identifiability" and "measurability of output" relate to the ability to specifically include production in the calculation of the incentive payment. The individual incentive system, for instance, requires that the number of units produced in a given time must be identified. The ability to do this will therefore affect the potential for using his kind of an incentive system.

Amount of Machine Paced Work and *Amount of Human Control Over Machines:* Relates to the employee's ability to control his own productivity. If amount of control is small, then an incentive system *built* around his individual performance may lead to employee frustration.

Frequence of Methods Changes: Relates to the costs of administration and maintenance of incentive systems. Individual incentive system will require a great deal of maintenance if the methods change frequently. However, in many enterprise-wide schemes, maintenance cost will not be affected by the frequence of methods changes since they are based on total departmental cost and not on specific operations.

Time Spent on Planning Rather than Producing: Relates to an individual's ability to innovate. If one's objective is to encourage employee innovation there will have to be time to plan. Yet some incentive systems, such as the individual ones, do not reware employees for innovation, but merely for the number of units produced per unit time.

Amount of Hazards on the Job: Is important because an incentive system that concentrates on high production may lead to carelessness, therefore, a continuation of hazardous jobs with incentive pay may lead to increased accidents. Similar arguments can be made with regard to "importance of quality of work".

Technological Innovation: Relates to the rate at which innovations occur. Some incentive systems, such as the profit sharing programs, can handle technological innovations with very little maintenance costs. Others such as individual incentive programs require much more maintenance.

Turnover Rate: Is important because some incentive systems may find high turnover rates detrimental to their potential success. For instance in jobs where a high degree of training is required before the individual can be a productive member of a work group, the small group incentive system may not be very effective because it will lead to dissention among the employees who have been there for some time and who must "carry" the new employee thus reducing their incentive payment. The relation of supply to cost of labor concerns the importance that money has as a motivator to specific kinds of employees. In some categories of employees, money is not the only and sometimes not the most important motivator. In that case, incentive systems that have no monetary motivators built into them, such as the labor savings sharing program, may be more appropriate.

Variation in Mix of Services: Relates to the rate at which demand for types of services change over time. For instance, suppose that the demand for obstetrical services suddenly increases greatly due to the elimination of such services at other neighboring institutions. Since the cost of these services is much different than the cost of providing, for instance, pediatric care the historical standard upon which some of the incentive systems are based will no longer be appropriate. Some incentive systems are influenced to a greater degree than others by this characteristic.

Bargaining Strength of "Employers" and "Employees": will influence the appropriateness of some incentive systems, for instance, the labor saving sharing program works very well where a strong union exists because it requires the effective participation of employee representatives. On the other hand, an individual incentive system might falter under these conditions because a strong labor voice tends to lead to a larger number of grievances over standards established for the individual incentive systems. This may create more problems than the system is worth.

Current Employee Morale: Some systems such as the labor savings sharing program lead toward an improvement in morale; other systems such as the individual incentive also inevitaby result in the reduction of employee morale. The current state of morale in the situation under consideration, therefore, will play an important role in deciding which employee incentive system is appropriate.

Labor Cost to Total Cost Ratio: Some incentive systems such as labor savings sharing program are built

about reduction in cost of labor. If a large percentage of total institutional cost is labor cost, then such a system may be very effecive. However, in the case where material costs are very high, fixed costs are very high and the total impact of labor cost reductions may be quite small.

Occupational Status Differences in Departments: Where there are few occupational status differences within a department the decision on how to equitably reimburse employees for productivity increases is not very difficult because an equal share of the benefits will lead to unhappiness on the part of the high status, high pay individuals, whereas an equal percentage of basic salary as the incentive payment will lead to dissatisfaction among the lower status, low pay individuals.

Wage Increases: Relate to the probability of having a high increase in wages in the near future. In some incentive systems such as the cost savings sharing program a large wage increase will reduce the possible impact of an incentive system because it reduces the potential payoff. Therefore, the system may not be particularly effective in an area where large wage increases are to be expected. Similar arguments can be applied to the problems of expected large "material price increases".

Participative Management: Relates to the tendency of the management to involve employees in decision-making processes. Some incentive systems such as the labor saving sharing program are built around this philosophy. Unless management is willing to extensively involve the employees in decision-making this program cannot be expected to work.

4. ONCE THE SITUATION UNDER CONSIDERATION HAS BEEN DESCRIBED IN TERMS OF THE PROCEEDING CRITERIA IT SHOULD BE COMPARED AGAINST THE PROFILES OF ALTERNATIVE INCENTIVE SYSTEMS, again described in terms of this criteria. The profile which best fits the situation which you face may be the more appropriate of the incentive systems. Figures 2–6 give these profiles.

5. Like any other management tool, the criteria and information above should be considered as merely aids in your decision-making process. They should not be considered to lead inevitably to the one best solution. After using the process described above, **REVIEW THE RECOMMENDED INCENTIVE SYSTEMS TO SEE IF IT MAKES SENSE IN THE LIGHT MANAGERIAL EXPERTISE.**

Example: Figure 6.7 is a hypothetical profile possibly associated with a radiology department. In comparing this with the alternative incentive programs it appears that a group program would be most effective and that of the group programs, that a cost savings sharing program or the value added program may be particularly appropriate.

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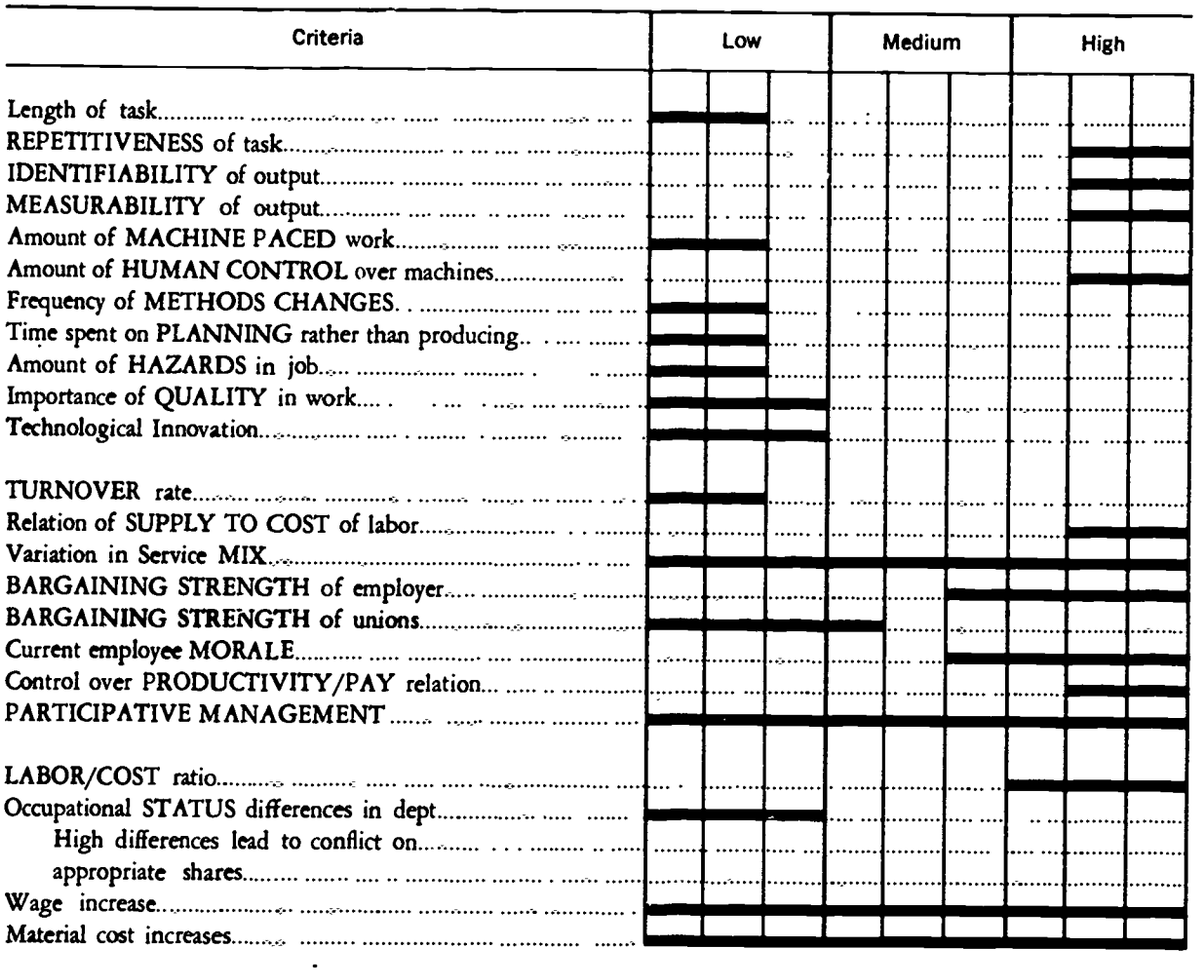
FIGURE 1—An indication of how well alternative systems satisfy a set of possible objectives of an incentive system.

	Individual	*TEAM* Small Group	Plant or Department Wide Systems			Profit sharing
			Labor savings	Cost savings	Value added	
INNOVATION:						
1. Encourage Employee Innovation	No	Little	Yes	Yes	Yes	Some
2. Reduce resistance to change	No	No	Yes	Yes	Yes	Yes
3. Encourage employees to disseminate their innovation	No	No	Yes	Yes	Yes	Some
CONFLICT/JOB SATISFACTION:						
1. Increase cooperation between employees.	No	No	Yes	Yes	Yes	Yes
2. Increase cooperation between departments.	No	No	Yes	Yes	Yes	Yes
3. Reduce turnover absenteeism	No	No	Some	Some	Some	Yes
4. Increase employee involvement in decision making.	No	No	Yes	Possibly	Possibly	Possibly
5. Employees work toward organizational goals.	No	No	Yes	Yes	Yes	Yes
PRODUCTIVITY CHANGES:						
1. Material Savings	No	No	No	Yes	Yes	Some
2. Labor Savings	Yes	Yes	Yes	Yes	Yes	Some
3. Production increase with current staff.	Yes	Yes	Some	Some	Some	Some
OTHER DESIRABLE CHARACTERISTICS:						
1. One shot accomplishments paid once.	Yes	Yes	No	No	No	No
2. Payment only when organization can afford.	No	No	No	No	No	Yes
3. Easy to administer	No	Some	Some—Yes	Yes	Yes	Yes
4. Easy to maintain	No	No	Some	Some	Some	Yes
5. Opportunity to reward employees upon behavior.	Yes	Yes	Some	Some	Some	No
6. Effort is related to payoff	Yes	Yes	Some	Some	Some	Little

FIGURE 2—Profile of Team Incentive Program



This is an indicator of conditions under which this incentive system may function as it is supposed to. Thus it is an indicator of feasability rather than desirability.

FIGURE 3—Profile of Cost Savings, Sharing and Rucker Incentive Systems

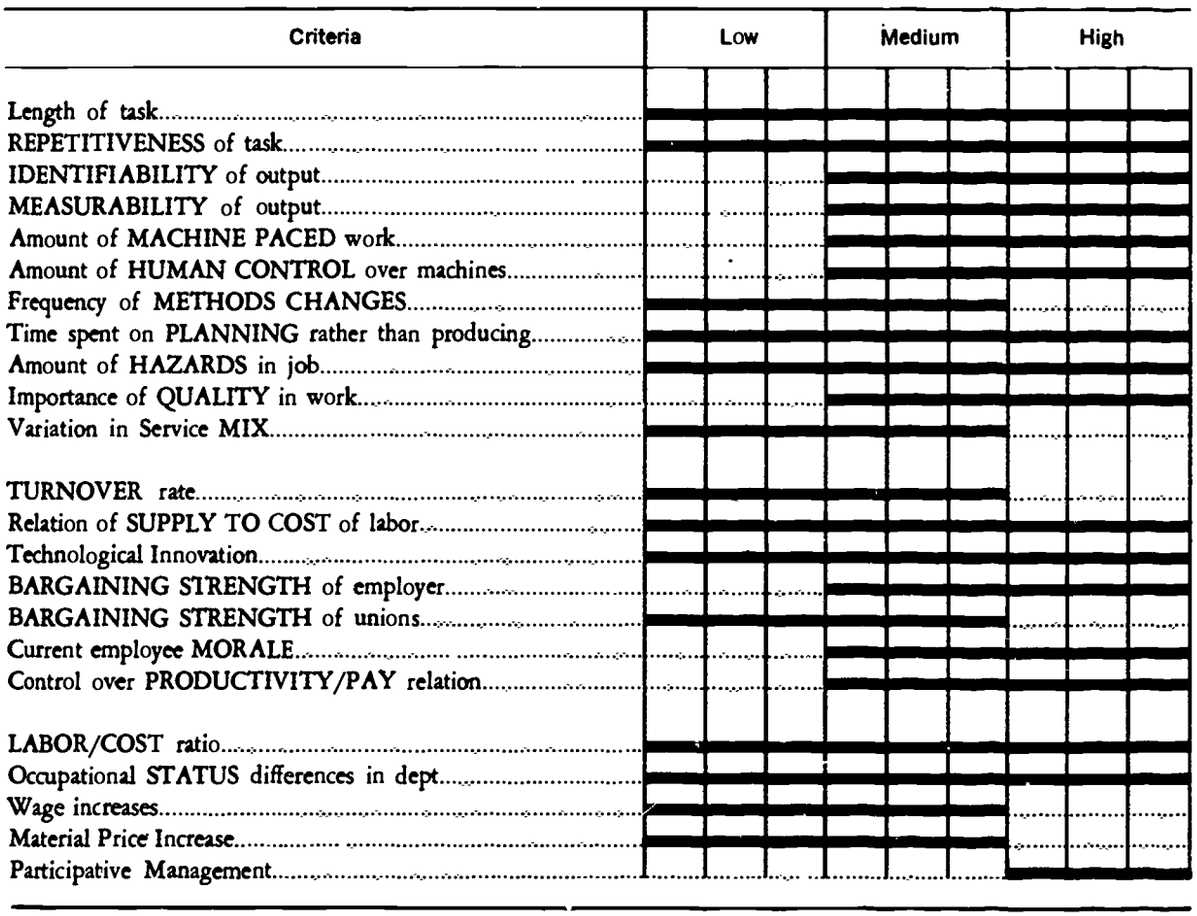


FIGURE 4—Profile of Scanlon (Labor Savings Sharing) Incentive Program

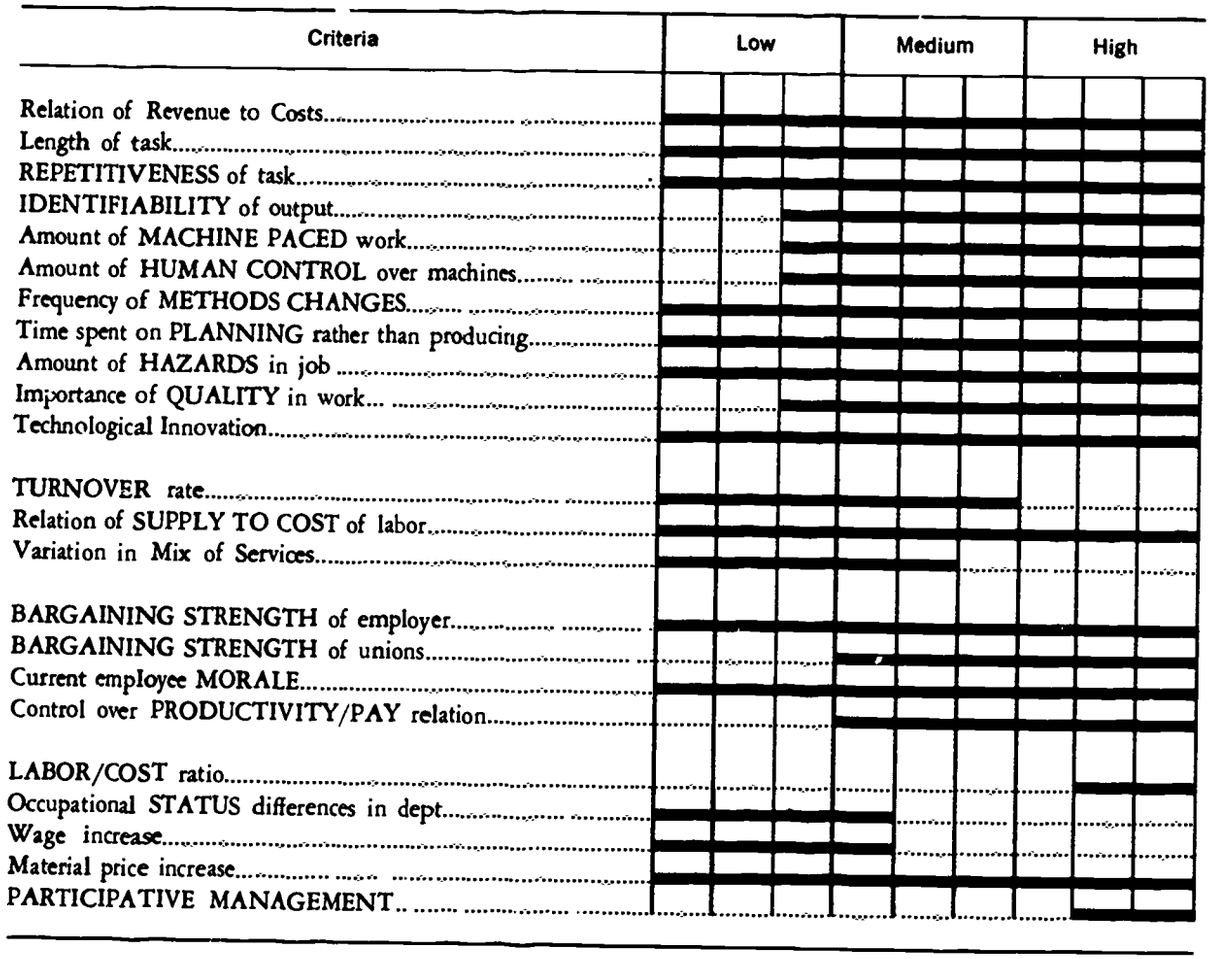


FIGURE 5—Profile of Profit Sharing Program

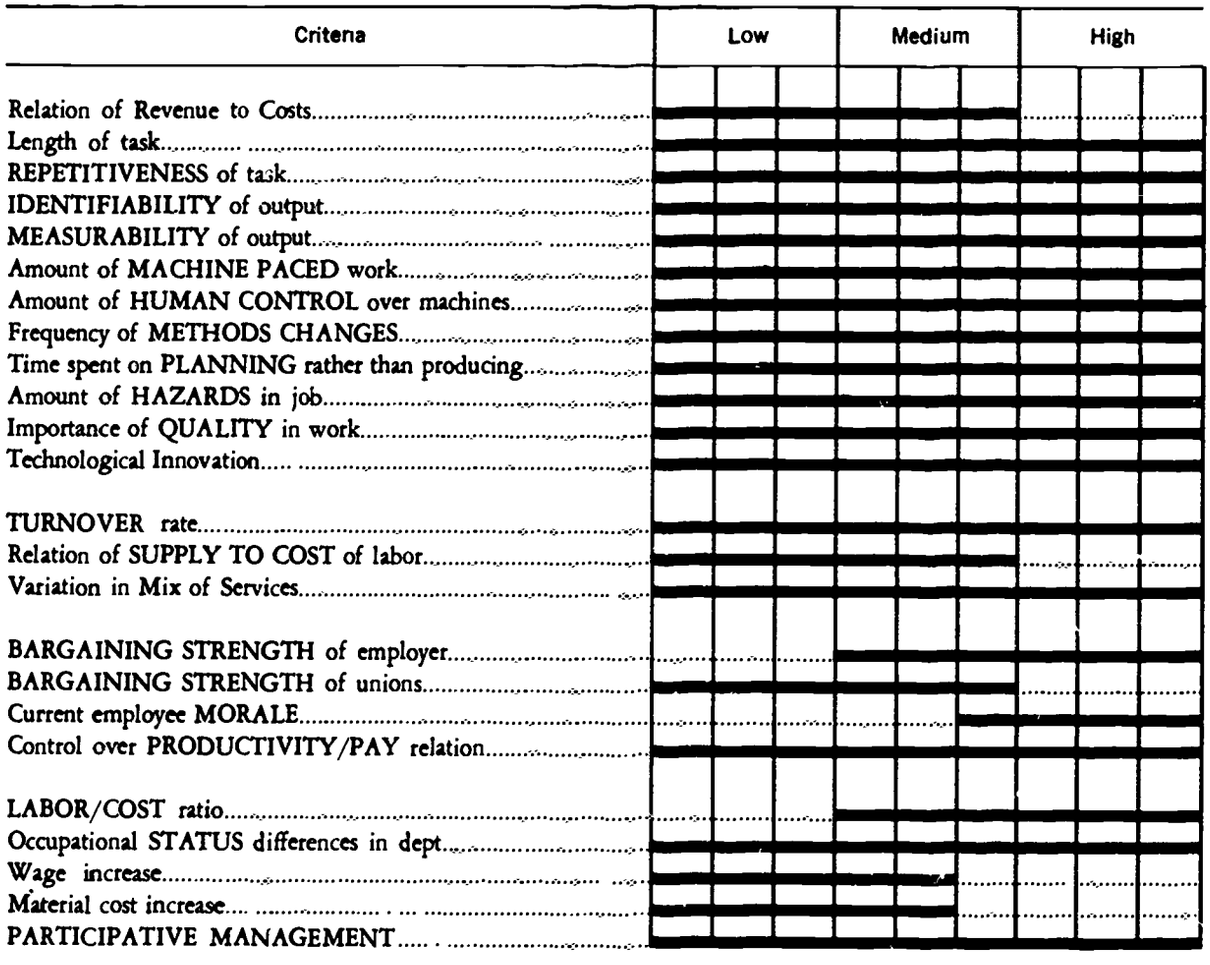
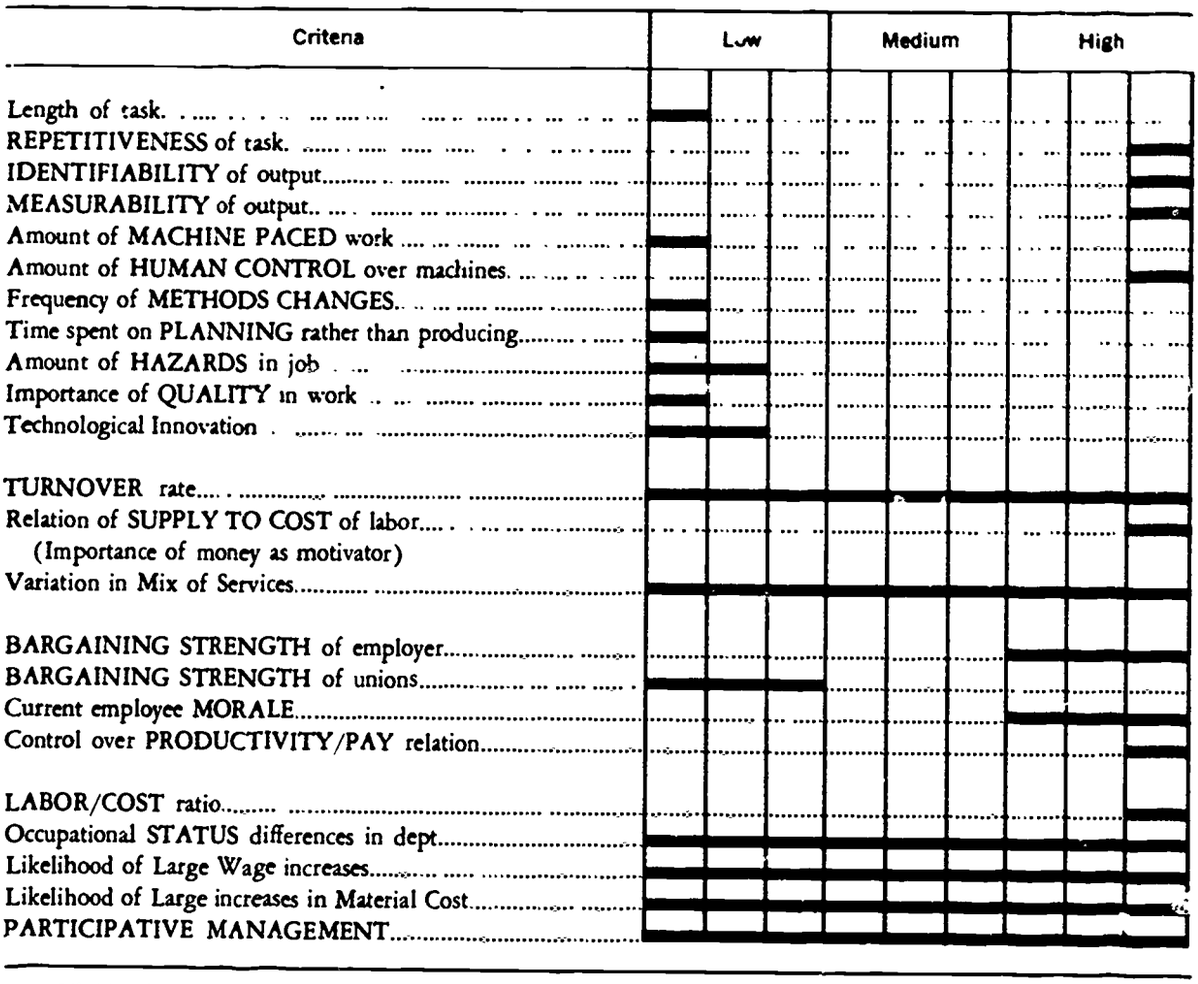
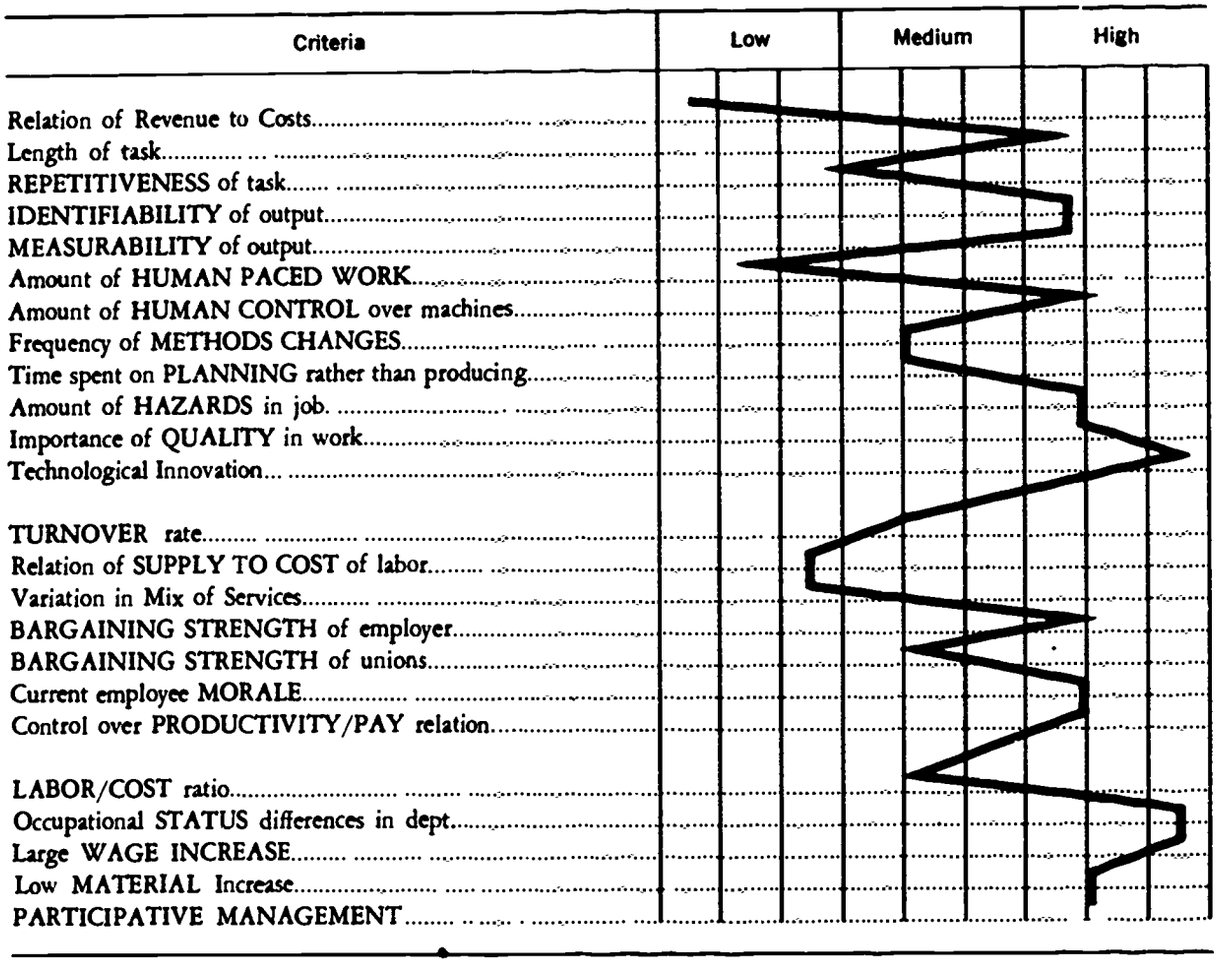


FIGURE 6—Profile of Individual Incentive Program



Likelihood of this system motivating employees is best when the following criteria are met to the degree indicated below.

FIGURE 7—Hypothetical Profile of Clinical Laboratory



Chapter 7

Developing Standards and Collecting Data

INTRODUCTION

The control of an incentive system requires:

1. An accepted standard level of performance for this organization against which current performance can be compared;
2. Methods of measuring actual performance to compare against the desired standard level;
3. A means of comparing the actual and standard performance; and
4. A rule for reimbursement on the basis of this comparison.

This chapter will review the desirable characteristics of both standards and measures, identify the kinds of standards and measures that can be used in an incentive system, describe the degree to which each standard and measure possess the desirable characteristics and offer guidelines on the development of these standards and measures. Specific guidelines will be offered for establishing standards and measures for specific Incentive Systems, such as the Individual, Small Group, and Enterprise Wide.

Incentives are built around the assumption that an equitable salary base exists within the institution. This means that a salary structure exists that is comparable to other institutions in the area. It also means that salaries and wages are based on the relative difficulty of clearly specified jobs. This requires that job structure and wage administration practices should be studied through use of job analysis and job evaluation techniques. This monograph will not attempt to review these tools, however, the reader can find a thorough review in Zollitsch and Langsher, *Wage and Salary Administration*, 1970, as well as numerous other good texts in the area. If this assumption is not met, the institution should develop this equity before entering into a monetary incentive system.

CRITERIA FOR STANDARDS

There are many similarities between measures of performance and standards of performance, therefore many of the same guidelines will hold for both. Standards are established before the fact and are performance levels against which current measures are compared. Measures on the other hand document *current* performance levels.

Criteria that can be useful in identifying the kinds of standards and measures that should be used are discussed below and later used in comparing the relative benefits of several kinds of standards that can be established.

1. All personnel should have an equal chance of earning an incentive payment, given the same amount of effort. Unfortunately in many of the incentive systems in operation in hospitals today this criterion is not met. As a result many employees complain about the ease with which personnel in other departments earn an incentive. This has the effect of leading to employee friction and discontent.

2. A standard should represent a "fair" day's work. Standards should represent a *desirable* level of effort. Standards based on past performance levels rarely meet this criterion because past productivity may be much different from a level which is fair to expect.

3. Standards and the resulting measurement should include only variables under the employee's control. Many incentive systems include costs over which the employees have no control, such as cost of operation of the nursing school, depreciation cost on a new building, etc. Since the employee has no opportunity to control these costs, their inclusion may tend to reduce the employee's control over his earnings and thus may reduce his motivation.

4. Standards and measures should account for changes in the demand for services. Demand for services can have a great impact on the incentive reward that employees receive. For example, new construction can very easily lead to a large increase in the size of nursing staff. Yet the increased demand for the services offered by this nursing staff is not initially equal to the increased cost associated with providing a minimum level of service. Unless temporary allowances or other changes can be made by management, such problems may have a very detrimental effect on the morale of the institution and the effectiveness of the incentive system.

5. A sandard should account for inflationary and deflationary trends in cost of operation. Costs of labor

and equipment are increasing greatly in the health care system. Such inflation tends to reduce the opportunity for an employee to earn an incentive unless there is an automatic compensating mechanism built into the standard. For example, if the hospital is operating a cost savings sharing program, an increase in the cost of materials due to inflation will lead to decreased opportunity for reducing costs. Left unattended this phenomenon can very stringently reduce the opportunity to earn an incentive payment. While it is difficult to modify the standard level of performance to take into account these inflationary trends, it becomes essential if the incentive system is to continue to be a meaningful employee motivator.

6. Good measures and standards should take into account "one shot" expenditures. Periodically, the hospital will spend a large sum of money at a single point in time on a controllable cost item. An example of this would be the purchase of films for radiology department. Unless these costs are amortised over the life of the purchase they will result in an inappropriately large departmental cost during a given month, thus eliminating any incentive potential. Another example of periodic expenditures that should be amortised over the year are vacation costs for personnel. Standards and measures should take these expenditures into account in such a way that they do not prevent an incentive payment during one period and lend to a large incentive payment for the employees during a following period. This is important because the employee must feel that the payoff that he is receiving is related to the effort that he extends during the period under consideration. Large single expenditures tend to contaminate that effect.

7. Incentive measures and standards should be insensitive to small changes in method. One of the major causes of incentive system failure is demoralization due to standards no longer being representative of the situation under consideration. One way in which standards become unrepresentative is through changes in the method for accomplishing particular tasks. Some standards need to be modified each time a method is modified. The more sensitive a standard is to these kind of changes the more expensive it would be to administer.

8. A standard should be easy to change when it becomes necessary to do so. Some standards, such as the time study standards require complete re-analysis of the job whenever the standard needs changing. This is extremely expensive and therefore leads to a tendency not to change standards.

9. It should be easy to identify when changes in standards and methods of measurement are needed. Unless these changes are made, demoralization tends to set in and the incentive system will fail.

10. Standards and measures should be easy to develop and to obtain. When this is not the case, there again is a tendency not to modify the standard.

11. It should be easy to understand how a standard was developed. If an employee incentive system is to be effective, the employees must trust management and must believe in the incentive system. Unless they understand the way in which the standard was developed and the way in which the incentive system operates this trust can be very easily eroded.

12. Where possible, the quality of the service provided should be included in the standard. At present this is very difficult to do in most areas of medical care, and therefore, few types of standards meet this criterion. However, much research is being done in this area and over a period of time, quality standards will be established and should be used.

KINDS OF STANDARDS

Development of good standards is very difficult to do because of the difficulty of identifying and measuring the product. No perfect standard has been developed. The possible alternatives currently in systems are:

1. A Normative Standard, established on what performance should be,
2. Subjective Standards, established by opinion or by negotiation,
3. Historical Standards, based upon the performance of the hospital in the past.

Normative Standards can be developed in several ways. The most expensive and difficult to develop and yet probably the most accurate is the standard developed specifically for the individual organization. In this case a trained industrial engineer or work measurement person studies the operation of the institution and through the use of techniques, such as time study, work sampling and predetermined time systems, established performance standards for various tasks. These standards are developed in such a way that it can be argued that they describe the way in which jobs should be performed. The result becomes the standard against which the organization can be reasonably willing to compare its performance. Such standards are practical in the individual and team incentive systems. At this time, for many large group systems, it becomes extremely difficult to implement this kind of system.

Another kind of normative standard is the industry wide type. In this case, standards are developed for several ways of accomplishing the objectives of *specific departments.*[1,2,3] They have the advantage of being inexpensive since most of the work has already been done and it merely needs to be applied to the individual institution. On the other hand the application can in some cases be a very complex process.

In some cases staffing methodologies are developed where standard times are established by time study, for an extensive list of procedures. The methods appropriate for an individual hospital are selected and used to establish when times various services are rendered.

If the way in which the hospital's system operates is the same as the way in which the test hospital system operated then the staffing methodology may provide reasonable standards of performance. Unfortunately, sometimes it is very difficult to understand the underlying assumptions with which these industry wide standards were developed since these assumptions are not clear. Sometimes it becomes very difficult to find how the test hospitals' operations differ, and therefore, it is difficult to identify just how accurately the resulting standards represent the situation as it should be in an individual institution.

Subjective Standards are established on the basis of experience and opinion of the decision maker. Sometimes these standards are negotiated between employees and management. In this particular case the quality of the standard is subject to the strength of the bargaining parties and there is no reason to believe that the resulting standard will be a fair representation of "fair day's work" or a standard that is potentially of equal fairness to each department. As a result there is a high potential for increased conflict between employees and management.

Where one of the bargaining parties is particularly weak, the other party may take a dictatorial view towards setting subjective standards. They may attempt to establish standards on the basis of "rough guesses". In this particular case a person representing himself as an efficiency expert may "study" an operation for a short period of time and then make "educated guesses" concerning the amount of time that it should take to perform the activity. He may in doing this make some rough timing of activities by use of a stopwatch or a wrist watch. The results of these kinds of standards are unacceptable, because they result from insufficient observation and inaccurate measurement of the task.

Historical Standards are sometimes based upon the past performance of the hospital. This approach to establishing standards is typically unsatisfactory because the departmental performances during this historical period are not of equal quality, i.e., one department may have operated very efficiently so if a standard is established on the basis of its historical performance it might be very difficult to improve upon the performance, as it exists. Other departments may be performing very poorly so the resulting standard may be too loose, resulting in high payments to employees. Since there is no way in a historical standard to control for these kinds of differences between departments there is no way to insure that the changes in the way in which an equal opportunity for earning incentives. Also there is no way to insure the changes in the way in which data is reported or manipulated will not lead to unfair standards or unfair measurements. Where they have been used historical standards typically lead to demoralization over a short period of time.

A second type of historical standard would be the comparative statistics. There are several ways in which comparative statistics can be obtained. One of these is the Hospital Administrative Services (HAS), offered by the American Hospital Association.[2] Other comparative statistics are offered by regional organizations such as Commission for Administration Services in Hospitals (CASH).[3] These statistics essentially compare an institution's performance with that of similar hospitals. These comparative statistics are easily available and, therefore, inexpensive to use. They do tend to reward an institution for performing better than average. Unfortunately the accuracy of the statistics is not always clear. Institutional representatives interpret the statistics requested in different ways so the resulting data may not always be comparable.

Figure 8 compares the criteria for good standards against the standards described above. A value of five is assigned when the particular type of standard meets the criteria in excellent manner. A value of 0 is assigned when the standard meets the criteria in an unacceptable fashion. Notice that some of the criteria have ranges of values assigned to them; this occurs because standards are not always established with equal quality and the degree to which the criteria are met by a specific standard will be a function of the quality with which the standard is developed. Finally, some criteria are not satisfactoriiy met by any of the standards. These are labelled as "no" in the appropriate location.

GUIDELINES ON DEVELOPMENT

When developing standards for enterprise wide incentives system, it is important to identify services that are grossly different in terms of the basic cost of providing them. In a hospital wide system, examples of such services might be inpatient versus, ambulatory care and obstetrical versus surgical versus medical care. Once these differences are identified the administrative team should consider developing a classification of standards which can then be developed for each service. It then becomes possible to handle changes in volume, product mix and price without resetting the basic standards.

In all enterprise wide programs every effort should be made to eliminate noncontrollable expenses and to amortize cyclical expenses over the period of their life.

When establishing a normative standard for specific institutions, the administration must make every effort to hire qualified personnel to study the operation. Unless this is done there may be a tendency to establish poor quality standards. In order to assure fairness of the standard, a trained employee advocate should cross check the standards after they are developed. Individual standards developed on a normative basis can create a very stressful situation between empoyee and management. Therefore, the employees need every visible

insurance possible that the standards are fair. Finally, specific agreement should be made between the employees and management on when and how standards would be changed.

When industry wide standards are used it is important to be very careful to insure that the standards developed on an industry wide basis are appropriate for the specific institution. As a result the development process used in obtaining these standards should be studied in detail, to identify the degree to which the standards were developed according to the pointers described above and to identify what assumptions were made in the development of this system. This information will permit you to identify how applicable the standard is to your specific institution. Examples of assumptions that are made relate to methods of taking into account vacation time, fringe benefits and specific activities not studied at all. It is also important to thoroughly understand the characteristics of the test hospital so they can be compared wih your specific insitution. Finally, it is important to assess the success of these standards in other institutions which have attempted to use them.

When developing comparative standards it is important to insure that the institutions upon which the standards are based is similar to your instituion. Therefore, every attempt to obtain hospitals of similar bed size, service, mix, and location is important. It is also important to get a larger number of institutions against which to compare performance so a representative performance sample can be obtained. With just one or two other institutions, it is very possible that their performance may be unusual and therefore may not serve as good standards. However, if a large number of institutions is selected the unusual institutions can be identified and treated appropriately. If possible, the identity of the comparative institutions should be determined to assess differences in accounting practices which may affect their value as standards.

We have prepared no guidelines with regard to subjective standards because we believe that they are unacceptable for the institution and therefore, should never be considered.

If the administrative team selects historical standards, there are several things that can be done to increase the probability that they will be successful. First, several years of operation should be used to establish the historical standard. The fewer the number of years that are used to establish average performance, the more likely that this standard will be inappropriate. The reason for this is that a single year may be a deviant indication of the hospital performance on the average. As a result, there may be several factors which will inappropriately influence the standard thus developed. The standard should be compared against current performance on a test basis to identify any major flaws. These flaws may be manifested in terms of an unexpectedly high or low performance of the system in comparison to what the standard would predict. When this happens a concentrated effort must be made to identify and correct the flaws in the sandard before the system is installed.

MEASURES

The guidelines for standards are equally appropriate for measures because the major difference between the two is a matter of timing rather than content. One error appears to be frequently made in measuring performance. This is the tendency to indicate periodic expenditures only in the period which they occur. For instance, a large supply of materials, enough to last for four months, may be purchased in June. This expense must be amortized over the period of its use, not incorporated totally into June expenses. Similar cautions exist for vacation replacement expenses. Such errors can completely eliminate an incentive payment when employees in reality have been able to increase their true productivity. An error of this kind can ruin an incentive program very quickly.

Because some tasks are more difficult to accomplish than others, a simple counting of them will not reveal the total effort expended. One attempt to take differences in difficuly into account is the concept of relative value unit. This is a process of identifying the relative difficulty of procedures in terms of labor, equipment, time, material and supply usage. These have been proposed and published for several departments[6] including laboratory[4] and radiology.[5] They permit departments to set standards in terms of dollars per relative value unit produced. This has the advantage of being a standard that automatically accounts for changes in backload patient mix, and mix of services rendered.

COSTS

Wage incentive schemes of all types are typically very difficult to cost account. While it is almost impossible to precisely measure the separate components of the costs, for example, which are involved in establishing the program, keeping it up to date, maintaining the standards, and administering the program; and, finally, the actual cost of the benefits paid to employees some rough bench marks are available.

Table 1 presents these estimates for individual, profit sharing and other large group incentive plans. They are divided into costs for developing the necessary standards and costs for maintaining the system. Note that the development costs for individual incentive programs are on a "per job" basis. The more jobs in a department, the larger the set up cost. One set of standards for nursing activities covers 138 jobs on a medical/surgical unit. Thus, the cost to establish standards for this unit, assuming industry wide standards are either not available or, for some reason, unacceptable, would be $200 \times 138 = \$27{,}600$.

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TABLE 1—Costs of Incentive Systems*

	Incentive Plan		
	Individual	Profit sharing	Other large group
Developmental costs	$200 per job	$3000	2½% of payroll for 100 employees. 1% of payroll for 400 employees.
Operation costs	2–4% of payroll	0.1% of payroll	.1% of payroll.

[1] Provided by Mr. R. C. Scott of Eddy Rucka Nichols Co.

FIGURE 8—A comparison of the degree to which alternative standards satisfy criteria for good standards

Degree to which criteria are satisfied: 5=Excellent 4=Very Good 3=Good 2=Fair 1=Poor 0=Unacceptable	Normative			Subjective		
	Specific to Organization	Industry Wide	Comparative	Negotiated	Rough Guess	Historical
Equal earn incentive pay opportunity	5	4	3	1	0	0–1
Represents "Fair Days Work"	4	4	2	0–2	0	1
Includes only controllable costs	4	4	3	3	0	1
Accounts for demand changes	No	No	No	No	No	No
Accounts for inflationary trends	(†)	(†)	No	No	No	No
Insensitive to small methods changes	4	4	4	3	2	2
Can change standards easily						
Know when standards' changes are needed	4	3	2	3	1	1
Easy to develop	0	1	4	3	5	5
Easy to understand	0–3	0–3	1–5	1–5	5	5
Easy to believe in	0–3	0–3	1–5	2–5	0	2
COST	0–1	3–5	3–5	4–5	4–5	4–5
Quality included	No*	No*	No*	No*	No*	No*

*It is possible to include in a separately specified and measured standard.
†Possible to include properly.

Chapter 8

Implementation and Operation of an Incentive Program

INTRODUCTION

Proper implementation and maintenance of an incentive system is essential to its success. This chapter provides some suggestions that will be helpful at all stages of the system's installation and development. We begin at the top of the hospital hierarchy, with the trustees and high level administration, since this is where the idea of applying an incentive system will most often originate, be carefully developed, and finally implemented. And it is here where the responsibility for continuous maintenance will lie. Early carelessness or misjudgement at the top can ruin an incentive program, as can neglect of detail at any point along the way.

THE ROLE OF THE BOARD OF DIRECTORS

The support of the board of directors is essential if an incentive system is to be successful. The Board should decide whether an incentive program is to be implemented and should be involved in the development of the program. Fortunately, boards are frequently composed of people from industry who have had experience with incentive programs. As a result, they can be very valuable advisors in this effort.

The board of directors should ask questions such as:

a. What benefits will the hospital gain from the investment in an incentive program?

b. What will happen if the system fails?

c. What are the difficulties in designing, implementing and maintaining an incentive program?

d. What will it cost us?

e. What can we expect as favorable results?

f. How can high standards of quality be maintained in the face of increased cost consciousness?

Management should thoroughly think out these particular questions before it goes to the board for approval to proceed. The administrator and his team should take advantage of the strength of the board by involving those interested and knowledgeable members in developing an initial plan. An advisory committee including board members and outside experts should approve: the concept of the incentive system selected, changes in the structure of the incentive system, and changes in the magnitude of the incentive payments and changes in policy. If a special incentive is set up for administration to insure cost consciousness on their part, this advisory committee should develop it and measure the progress of the institution so as to calculate the payoff to administration.

If management is truly interested in developing an incentive system the board should consult experts to attest to the validity of the program. This means not only people who have studied the process from a theoretical standpoint, but also people who have been involved in successful programs similar to those planned by the administration.

THE ADMINISTRATOR

The first task of the administrator is to be an educated consumer in the area of incentive systems. Much of the work of evaluating the whole range of available incentives can be shared and delegated of course, but there is great value in the administrator himself being familiar with these systems—how they work, their strengths and weaknesses, what they can accomplish, problems they might encounter and so forth. Indeed, one of the primary aims of this monograph is to provide this kind of familiarity for the hospital administrator. Without it, he may well find himself reacting to the incentive system, surprised pleasantly or unpleasantly by unexpected developments, but not anticipating and directing the program's progress.

Furthermore, since the administrator is the key decision maker, and since the fate of the plan may rest on his enthusiasm and support, it is an asset to have him intelligently involved and assuming a major role. Incentive plans within and outside of the hospital field have benefitted immensely from the leadership of the top man, so the commitment necessary for the plan's success should start here.

In addtiion to his own time, attention, and effort,

the administrator must be prepared to commit other personnel and resources for the long run. He should not view the incentive program as something that will be installed in a few weeks or months and then run smoothly thereafter. The break-in period will vary depending on the complexity of the plan, as will the personnel and resource requirements. These requirements are discussed elsewhere in the monograph; here we simply emphasize that the administrator must gauge them at the outset, give the incentive system the appropriate priority rather than a secondary claim on time and resources, and maintain this priority on his agenda and in the objectives of essential hospital staff. Anything short of this can be an important source of early failure of the plan, or steady deterioration over the long run.

Personnel directors frequently assumed operational responsibilty for the program. They should be knowledgeable about the program's purpose, operation, results, problems and benefits. Their responsibilities include identifying and planning program modifications, directing its day to day operation, organizing the staff necessary to its functioning, maintaining its effectiveness and employee enthusiasm.

A financial officer is needed to calculate and prepare payments, establish and modify some standards, and collect data on program operation.

An employee relations effort can insure that a continued interest in the program is maintained by employees and management as well.

MANAGEMENT ATTITUDE AND CAPABILITY

Frequently an incentive system is a fad where, for the first year or two, management is interested in the success of the program, but then turns to other things thought to be of more immediate concern. When this happens, an incentive system will deteriorate rapidly. Therefore, unless an administrator is prepared to provide continuing support for an incentive program, he should not plan to implement it. It is a unique individual who can maintain the required commitment to cost reduction in the face of pressures in other directions.

Because of the demanding task of the administrator it is impossible for him to give adequate attention to all components of his job. Periodically the board may wish to orient his priorities more toward cost reduction. One possible motivator in that direction may be an executive incentive program. While common in many other industries, the authors feel they have not received the attention they deserve in the health field.

Such a program could operate in a manner similar that they receive a payment based on the organization's success in containing or reducing costs. A cost reduction goal might be set and administration rewarded as a percentage of total savings. Obviously the larger the potential reward to administration, the greater the motivation to reduce costs.

In considering such a program, the board should recognize the disadvantages and advantages. First, because of the control administration has over the organization, it has the greatest potential for affecting costs. As a resul, high cost reduction motivation on their part will probably lead to the greatest savings per dollar of investment. On the other hand, it may also have great detrimental effects. Increased cost consciousness may replace a concern for quality. The medical staff should be able to act as an effective check and balance here. In addition, management may view such an executive bonus as an insult rather than an incentive. The board should carefully assess whether the program will have the desired effect. It is also possible that the community would respond quite negatively to the knowledge that such a program was in operation. The board should assess the community view of such a measure, and even if positive, should minimize its publication.

Finally, the existence of a substantial bonus for the administration might, if made public, create resentment among employees and middle level manageent not involved. The impact of these potential problems will vary between communities and individuals. Only the individual board can assess their aggregate impact.

In order to reduce cost, management must have the capability to know its financial position and a capability to design efficient systems. A good financial accounting system permits management to know its current financial position, to forecast the effect of cost reduction efforts, and to evaluate the true effect of cost reducion on the institution's financial position. This requires a financial reporting system that is available promptly, frequently and is an accurate representation of the condition of the organization. While this is an expensive and difficult undertaking, it has payoffs far beyond that of improving the incentive system itself.

A good systems engineering department should be available to *help* management *and* employees design and implement improved systems. The industrial engineer can be more effective if received positively by the employees. An incentive system creates the demand for efficiently to which the industrial engineer then can respond.

THE ROLE OF THE CONSULTANT

The outside consultant* best fits into incentive system design during the time when elements of solutions to problems are being identified. That is, at a time before a decision has been reached that incentives are needed

* We define outside consultant to mean any person outside the organization who possess knowledge valuable to the organization and who agrees (whether for money or not) to lend his expertise to the organization.

but after problems and objectives have been identified. Research on change[1,2] indicates that fresh views of problem situations are needed before an effective change program can take place. This is a role effectively played by the external consultant.

It turns out that both theoretical and applied insights can be valuable. One understands the cause and effect relations between problems and solutions. The other possesses the ability to combine these relations into feasible solutions.

On the other hand, consultants should not design the incentive system for hospitals. Research indicates[3] that most successful change programs are designed by teams internal to the organization. Outside consultants are not familiar with the unique strengths and weaknesses of a given hospital so it is unreasonable to expect them to be able to incorporate these into the designed system. The best use consultants, at this and any other stage of developmental programs, is to "get them in and get them out". This means for instance bringing them in to discuss progress in development of the program. In this way, it is possible, according to problem dimensions for which they possess capability, to bring in those experts that can help most at a given time rather than expect one person to have the expertise to do it all.

By implication, we are suggesting that the hospital assume primary responsibility for designing its own incentive program.[4,5] This means one individual must be expected to become knowledgeable about the literature and other non-published efforts in the area. A full-time individual reporting directly to the administrator must have a limited budget but ability to obtain released time from other hospital personnel as they become useful in the design activity. *We suggest that a committee not be formed.* This again is expecting too much from a limited set of individuals. Rather, the project director should be able to call upon those people who have capability to solve the specific design problem at hand: users of the system during problem identification; internal and external knowledge experts during solution identification and administrators and resource controllers during development and approval stages.

THE ROLE OF THE SUPERVISOR

Commitment at the top management level should be matched by similar commitment at the supervisory level. Here too, there must be a willingness to devote to the plan time normally expended on other duties. Here too, the time required varies with the complexity of the plan; some systems call for clerical and maintenance work by supervisors while others do not. But in either case the supervisor can play a key role in fostering and maintaining interest in the plan. Initially the supervisor can perform the important function of explaining the plan and its details to the employee. This is not to say that the supervisor should have the entire responsibility for this key function. As noted elsewhere in the monograph, formal meetings between management and employees should be held for this purpose, and written explanations of the plan should be disseminated throughout the hospital, utilizing brochures, leaflets, or the hospital bulletin. Nevertheless, there will always be people who weren't reached, points overlooked, questions not answered, details that need to be clarified. Here the supervisor can keep the employees posted on the results being achieved, problems that might be encountered, or any adjustments that might be necessary. In short, the supervisor should act as a vital link in the maintenance of any incentive system. Where this link fails, the plan is likely to suffer.

Once again it is a mistake to leave this outcome to change. There should be a realistic decision on how much supervisory time should be devoted to the incentive system, and there should be a consensus that this is a high priority item.

Since the supervisory role is so essential to success, it is a good idea to involve supervisors before other employees. At all times, they should have the feeling that the incentive system is being operated through and with rather than around them. Their comments and suggestions about the system should be thoroughly discussed, fully considered, and, where appropriate, incorporated into the program. With proper presentation of the incentive system to supervisors, it will be possible for this key segment to fully appreciate the plan and work to sell it to all the employees.

The receptivity of supervisors toward a cost control arrangement will be enhanced to the extent that they have already been sensitized to the financial aspects of the hospital's operation. Management that has systematically familiarized supervisors as well as other employees with the economic problems of the hospital will be in a good position to enlist support for a device designed to do something about rising costs. Where this groundwork has not been attended to, it should be worked on intensively prior to and along with the installation of the incentive plan. Meaningful dialogue on costs with supervisory personnel will improve the prospects for an incentive system to show results, and at the same time, will be one of the crucial by-products of the program.

EMPLOYEE ATTITUDE AND CAPABILITY

Any effort to force one of these systems on employees strongly opposed to them is almost sure to fail. Conversely, it is a good bet that management of employees prior to implementing the plan will greatly increase support and chances for success. As much as possible, the employee should be made to feel a part of this plan for change by involving employee representatives in the incentive system design. Where time

study is involved, for example, it might be worthwhile to train key employees to do this work. Minimally, employees should be involved in standard setting to the point of accepting the procedure as equitable.

Thus far we have discussed knowledge of and involvement in the plan at the upper and middle management levels. This is extremely important as noted but it is only a means to an end. The objective is to have knowledge of the plan widespread throughout the hospital. As soon as you encounter large numbers of employees who are only vaguely aware of the plan's working and objectives, you have good ground for suspecting that the system has or will become ineffective. The more people at all levels who understand the plan in all aspects, the more likely it is to have the intended effect, and this applies from the time the plan is installed through its lifetime within the organization.

As underscored earlier, a variety of techniques can and should be used to acquaint employees with the plan and to keep them aware of its operation. Initially every available communications resource should be enlisted in the effort. Meetings can be held throughout the hospital and scheduled so that every employee is able to attend. Individual briefings are also desirable where they can be arranged. In the case of one highly successful plan, the consultants in charge of installation personally explained the incentive program to each member of the organization individually. Though this was many years ago, employees still recall with satisfaction and appreciation this personal touch that accompanied the initiation of the arrangement. Meetings and briefings can be supplemented with booklets, brochures, memos, the hospital bulletin or whatever other written material is available. What is needed is a communications campaign that will make the plan highly visible to and understood by everyone, and this high level of awareness must be sustained over the long run.

A climate of mutual trust and confidence between management and worker is ideal for translating knowledge of the plan into enthusiasm and support. Any incentive system will work better in a setting of harmony and cooperation. Where mutual regard is entirely lacking, it is doubtful that an incentive plan of any kind will work. *Incentive systems are best conceived of as a supplement to rather than a substitute for good management.* They are definitely not a cure for serious organizational ills and should seldom, if ever, be attempted as such.

Employees must perceive the plan as one that will benefit them as well as the organization. It is important that they don't greet the incentive system as "another gimmick to get more work out of us." Even under the best of circumstances, employees are likely to have some concern about the impact of a new payment arrangement on salaries, raises, job security, and work standards. Any such doubts must be allayed if the plan is to achieve wholehearted support. Similarly, it is necessary for management to feel the employees are making a reasonable effort to achieve the goals of the plan with the terms specified. When confidence and cooperation are below a level where such expectations are reasonably, it is unlikely that any incentive system will be successful. What is more likely is that existing problems will be aggravated by the use of incentives.

A high level of trust would seem especially important in the use of financial incentives, especially those involving the use of measured standards to determine whether a bonus will be paid. A recurrent problem of such plans is the difficulty of knowing whether the standards are correct, too tight, or too loose. If they are too tight, management must be responsive to the workers' complaints that a bonus cannot be earned even with an increase in effort. If they are too loose, employees must indicate to management that a bonus can be earned without increased effort. In short, management must trust the employees to give the system an honest chance to show results, and the employees must feel that management is sincerely trying to formulate a mutually beneficial incentive plan. Both sides should be willing to make adjustments in the plan to achieve results, since it is unlikely that even the most carefully designed system will function flawlessly from the outset. Again, the program is jeopardized. It is in this kind of situation that good communications and the involvement of top management can be very helpful.

Prior to a willingness to give the incentive system a fair trial must be the desire on the part of the employees to try such a system in the first place. Perhaps the most formidable obstacle to any such plan is initial hostility on the part of the employees. The worst results we have seen in the use of incentives by hospitals involved situations where the plans were imposed over the objections of those most affected by their operation.

We have said that it is essential to have thorough knowledge of the incentive system widespread among employees. The same can be said for an active interest in its success, and once again a good public relations program, during both implementation and operation, is indispensable. Some important features of such a public relations program are: first, variety is essential. The best PR program will soon get stale unless it is continually changed, improved and modified. The person in charge of the incentive program should have the innovative capability to create new methods of maintaining employee interest. One possibility is to have an enrollment period in the incentive program. This means that new employees would not be eligible for the program except during certain enrollment periods. During the time when they are invited to enroll in the incentive program, events such as coffees, printed invitations to join the program and movies describing the program are all possibilities as far as developing employee interest.

After enrollment, it becomes even more important to maintain employee interest in the incentive program. Vehicles such as regular meetings describing the state of the hospital and indicating the current level of success in cost reduction are valuable. This is particularly important for employees who receive incentive payments infrequently (annually or semi-annually) because it helps identify areas of weakness that can be corrected and areas of strength that might be expanded in order to gain greater incentive reward. Checks given to the employees as a reward for cost reduction should be separate from regular paychecks so that the employee does not come to expect this as a regular part of his paycheck and so that he can more directly associate his payment with his effort. For deferred payment program it is desirable to have passbooks or charts of accounts to show how successful the program has been for the individual employee and to show the employee how his investment in the organization has grown.

It is also important to inform the employees of the program's progress through media such as the hospital newspaper, brochure, posters, and charts; and to provide educational programs where the employees have the opportunity to learn more about the incentive system. Still, the most important motivating factor is the continued deep interest on the part of management in this program. We stress again that an incentive system should not be implemented unless management is committed to a deep and long term interest in the program. We also do not believe that incentives exist in the health care field today that make it desirable for management to reduce cost. Until these incentives are put into third party payment structure, such as the prospective reimbursement, it will be essential to motivate management externally, in order to realize a significant cost reduction.

As with management it is essential that employees not only have an interest but also the capability to reduce cost. The hospital field is filled with examples of incentive systems that have failed, because the employees were not able to reduce cost even though they wanted to. Employees will reject an incentive program unless they see results. Results can come only from a concentrated program of cost reduction involving the employees and management.

Employees should have the opportunity to find their own ways to reduce cost. Management should make suggestions on ways to reduce costs, but permit the employees to make the decisions on how they want to reduce cost. Management needs to develop the employee's capability to have an effect on costs and should give the employees an opportunity to have that effect by letting them identify and attack where they can reduce costs. One possible way of doing this is through suggestion programs which do not reward the individual directly for ideas on how to reduce cost but which lead to a sharing of the cost savings with all employees. In such a program, the developer of an idea should receive a great deal of publicity with regard to his contribution so that the employees can see that thi person has contributed to all of their paychecks. It is also important to let the employees have an active role in committees and activities that are concerned with cost reduction in the organization. Additionally, it is important to have a systems engineer to respond to the desires of the employee to reduce cost. Employees often have ideas on how to reduce cost but need assistance in putting them into practice in a way that will lead to the greatest amount of cost reduction. On the other hand the interest and capability to identify basic ideas of cost reductions will make the employees much more responsive to a detailed analysis of the operation by the systems engineer.

It is also important to train the employees in cost reduction methods. Management should be prepared to make a sizeable investment in employees to insure that they do have this capability. All employees should understand the fundamental techniques for reducing cost. These techniques essentially revolve around work simplification and methods improvement programs of various types. Many programs of this type exist around this country and are available to hospital personnel. In addition some employees should receive more detailed programs and be given responsibility for finding ways to reduce cost. These employees can receive additional training through various summer conferences at universities and other locations and can also benefit from working with an industrial engineer. In addition to these methods of developing capability, the employee can develop and maintain a capability in cost reduction through refresher courses of various kinds. One possibility is to have film strips available to the employees that give them advice on how to reduce costs. Another possibility is to have lectures or talks on subjects of cost reduction available to the employees. Finally, employees should have available to them case studies and other real world examples of how costs have been reduced in a particular area.

Beyond the interest and capability of the employees in cost reduction, it is essential that the department head must have a capability and understanding of the needs to reduce cost. This means that he must have a fundamental understanding of basic accounting concepts and the financial benefits of cost reduction program.

RELIABILITY OF THE PROGRAM: It is essential that employees must believe in the incentive program or it will fail. One of the quickest ways to insure failure is to give the employees their incentive system paycheck later than promised. It is also essential that an opportunity to earn an incentive must be maintained. This means that whenever management makes changes in methods or operations, that standards should be modified so that these changes will not affect earn-

ing potential. For example, suppose there is a decision by management to increase the number of nursing personnel on the floor so as to improve quality. This is a management decision, therefore, standards should be modified so as not to hurt the employees opportunity to earn an incentive. Or suppose a new service that is provided by the hospital that will require some time to reach financial stability. During this time, the incentive system should be modified so as not to influence the earning opportunities of the employee. There are other examples such as the purchase of a new type of equipment for providing a service. An example of this might again be the purchase of an electronic thermometer to replace the older mercury ones. This change will increase the time required to collect temperatures in return for improved accuracy of the temperature measurement. This will also lead to an increased supply cost. If this decision was made by management, then management should change the standard associated with the incentive program. These kinds of modifications require that management should have a mechanism which will permit detection and prediction of the effect of changes on the incentive system. Then management will be prepared for these changes when they occur. This requires strong lines of communication between purchasing and incentive system personnel. This also means that changes in method should be communicated to the incentive system office before they are made so that incentive personnel can take them into account in their incentive. Finally, in order to insure that employees trust the incentive system, it is important to be completely open about the methods by which incentives are calculated. Employees should know how one plans to calculate an incentive system payment and management should be prepared to re-explain this method several times over so that employees can feel free to ask questions and to feel a part of the incentive system.

METHODS OF PAYMENT: Payments to employees can be made on either cash basis or a deferred basis or a combination of the two. On a cash basis, the employee receives cash at the end of a fixed period of time and he can do with this cash as he wishes. This option has the advantage of being a much stronger motivator than the deferred plan. The employee has the money and, while he is spending the money, he can appreciate the fact that he is participating in an incentive program that permits them to have these addiional funds. This leads to a greater desire to reduce cost than he has up to this time. This system, however, has disadvantages. First, it is more difficult and more expensive to administer because it means the preparation of checks and the provision of funds on a regular basis. The more frequent the payments to the employees, the more difficult it is to administer.

The deferred plan has the advantage that it is easier to administer. It also has the advantage of a forced savings program to insure that the employees have funds in time of major needs (such as sickness or house purchase). The program has the disadvantage that it does not appear to be as strong a motivator as the cash plans because the employee only has a statement of his worth and not the cash to spend it as he wishes. Behavioral research shows that the ability of the employee to participate in decisions affecting him is very important in motivation. We would suggest that the employee be given the option to choose a deferred plan, a cash plan, or a combination of both. The hospital should attempt to accomodate the employee desires as much as possible.

Finally. with regard to method of payment, it is essential that employees have an equitable salary base. The incentive system should not be used in place of a good salary or retirement program. It should be used as an additional incentive to reward the employee for additional more effective productivity.

CONCLUSIONS

To summarize and emphasize the main points, no incentive system of any kind should be undertaken without serious consideration, planning, and preparation at the highest level of the organization. An ill-conceived or poorly implemented plan can do far more harm than good. The several examples of serious disruption in hospitals resulting from incentive system design problems indicate that an incentive system will have a better chance to succeed if such problems are anticipated before implementation.

Even well designed plans, however, will need to be adjusted somewhere along the line. Such adjustments will be easier to accomplish if there is a wholesome spirit of cooperation between employees and management and, if the plan is treated on both sides as an experiment that will require some changes before assuming final form.

The involvement of the hospital administrator can be of great help in this kind of difficulty as in many others relating to the incentive plan. If he has the trust and confidence of the employees, he can create the proper attitude toward adjustments just as he can be instrumental in selling the plan in the first place. His own understanding of and enthusiasm for the incentive system will be reflected throughout the organization provided he is involved himself.

If the incentive system is to have a good chance to succeed it is essential that the employees want the system to be used. It is crucial that they understand the system and believe that it makes sense in the context of their daily activities and duties. To achieve this climate, the plan must be carefully explained to every employee, and there must be a continuing effort to communicate results and developments.

By contrast, a system that is imposed by management over employee objections is severely handicapped. Employees may try to subvert the system rather than support it, and the slightest problem will confirm early suspicions that the plan is unworkable and intolerable. Few incentive systems can carry this burden of resentment; most of them under these circumstances collapse with lingering hostility in their wake. An incentive system is under no circumstances a solution to the problems of mismanagement. It can aggravate such problems more readily than it can eliminate them.

In this chapter, we have emphasized the importance of a commitment to a cost reduction on the part of both employees and management; the importance of developing a capability in employees and management to reduce cost; the importance of selecting the appropriate method of payment to be used as an incentive system and the importance of involving the board of directors very actively in the program from the start.

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Chapter 9

Evaluating an Incentive System

OVERVIEW

Many incentive systems fail within five years due to errors in development and maintenance. However, there are outstanding examples of success in industry. In the health field the attempts to apply incentive systems have frequently met with failure. Most frequently this has been because deterioration sets in, resulting in loss of morale on the part of the employees involved in the system as well as loss of interest on the part of the management. The primary reason for this deterioration seems to be lack of effective control over the incentive system; the purpose of this chapter is to demonstrate how to detect a situation where modificaion of either the incentive system or the job structure will prevent or correct deterioration of the incentive system.

Two forms of evaluations are periodic evaluations and continuous evaluations. *Periodic evaluations* are done at regular intervals and attempt to detect major changes in performance. One mechanism for doing this is to compare job profiles (see Chapter 6) as they exist today with profiles as they existed when the incentive system was first designed. This is an important evaluation because it detects when an incentive system is no longer appropriate. Suppose for instance a clinical laboratory was initially under an individual incentive system because its profile was as is shown in figure 9. Later the hospital decided to add a coulter counter, connected directly to a small computer, an autoanalyzer and other automating devices The profile changes drastically (see fig. 9). A comparison with the individual profiles in Chapter 4 show that the individual plan will no longer be appropriate. The system will have to be changed. Under other circumstances, however, it might be more appropriate to change the structure of the job rather than the structure of the incentive system itself.

Such an evaluation possesses all of the essential characteristics of a control system (see figure 10). The *standard* is the theoretical job profile appropriate for the selected system. The *disturbance* on the system is the automation process. The *measurement* is the profile appropriate for the new job structure. The *comparison* is made by identifying the differences between the theoretical and the future profiles. The *action* is the decision whether or not to change the job, the incentive system, or both.

The same basic concept of standards, disturbances, measurements, comparisons decisions and action exist in a second and somewhat more complex incentive system evaluation.

A *continuous* evaluation is a valuable adjunct to the periodic evaluation described above. Typically this involves the comparison between expected and actual hospital performance described in terms of specific objectives. It is particularly valuable because it helps to detect when hospital incentive systems *begin* to deteriorate. It acts as a feedback to management and employees concerning the areas that need improvement. It also detects situations under which performance of a system is better than expected so that management can identify the reason for his success and apply it to other areas.

At this stage we will briefly review the process for establishing a routine evaluation. We will go into detail on this process later. First, establish objectives of desired performance. The hospital must decide what they want their incentive system to accomplish and then quantify these in a way to permit them to measure. Note that these objectives are not standards used in the incentive system but rather an indication of what the incentive hopes to accomplish. They are described in the chapter on incentive systems selection.

Second, measure how well each objective has been met. Such a measurement indicates where the hospital is with respect to each objective. It is important to consider here both employee and management objectives. Unless both are happy the incentive system will fail. Consideration of both sets of objectives will prevent dissatisfaction and gain employees, as well as management commitment to the incentive system.

Third, compare the achieved and desired performance using control charts that are described below.

Fourth, decide whether the difference between achieved and desired performance is large enough to take action. If so, select the changes that need to be made and make them.

FIGURE 9—Hypothetical Description of a Clinical Laboratory Job

Before Automation—(Solid Line)

After Automation—(Dash Line)

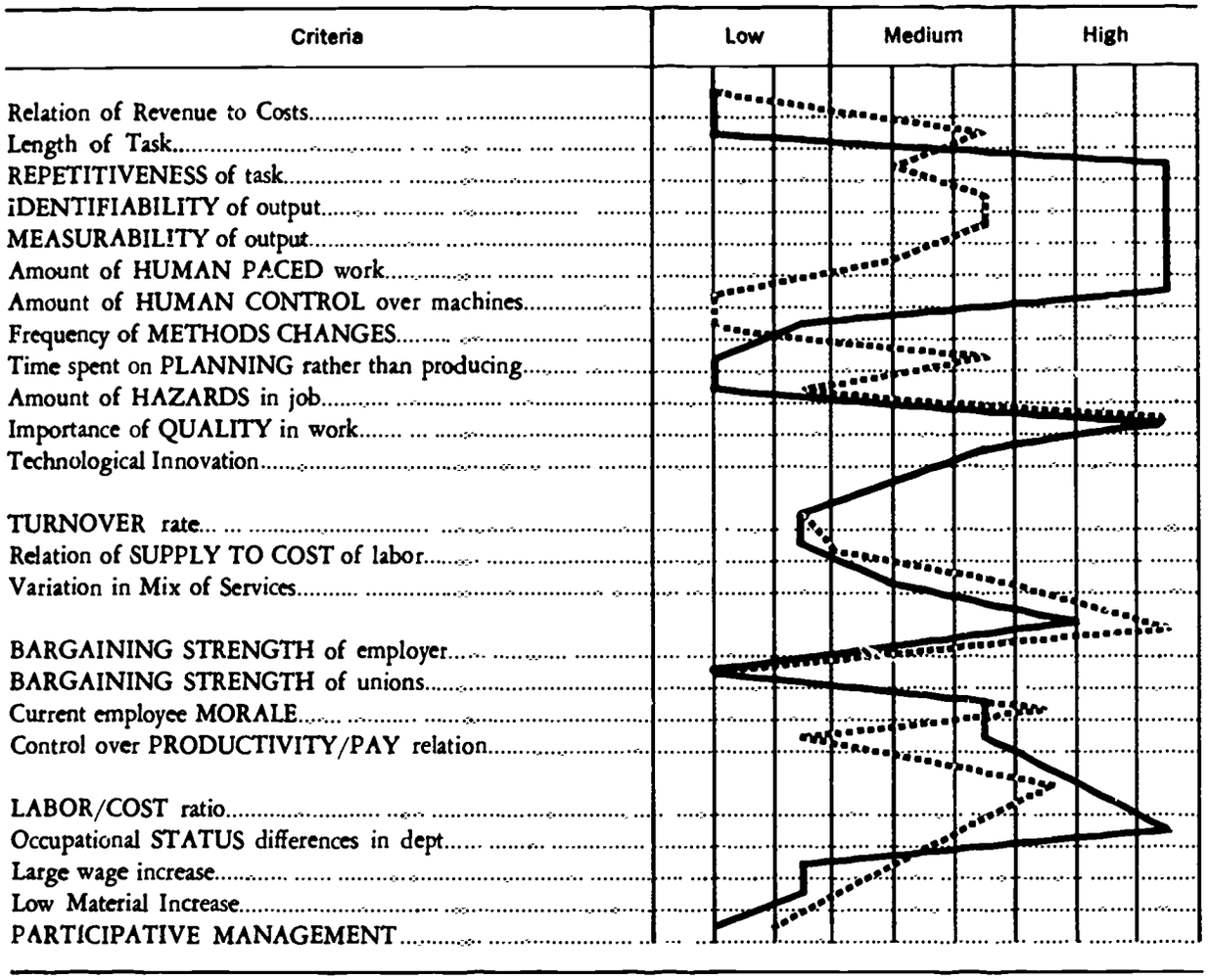
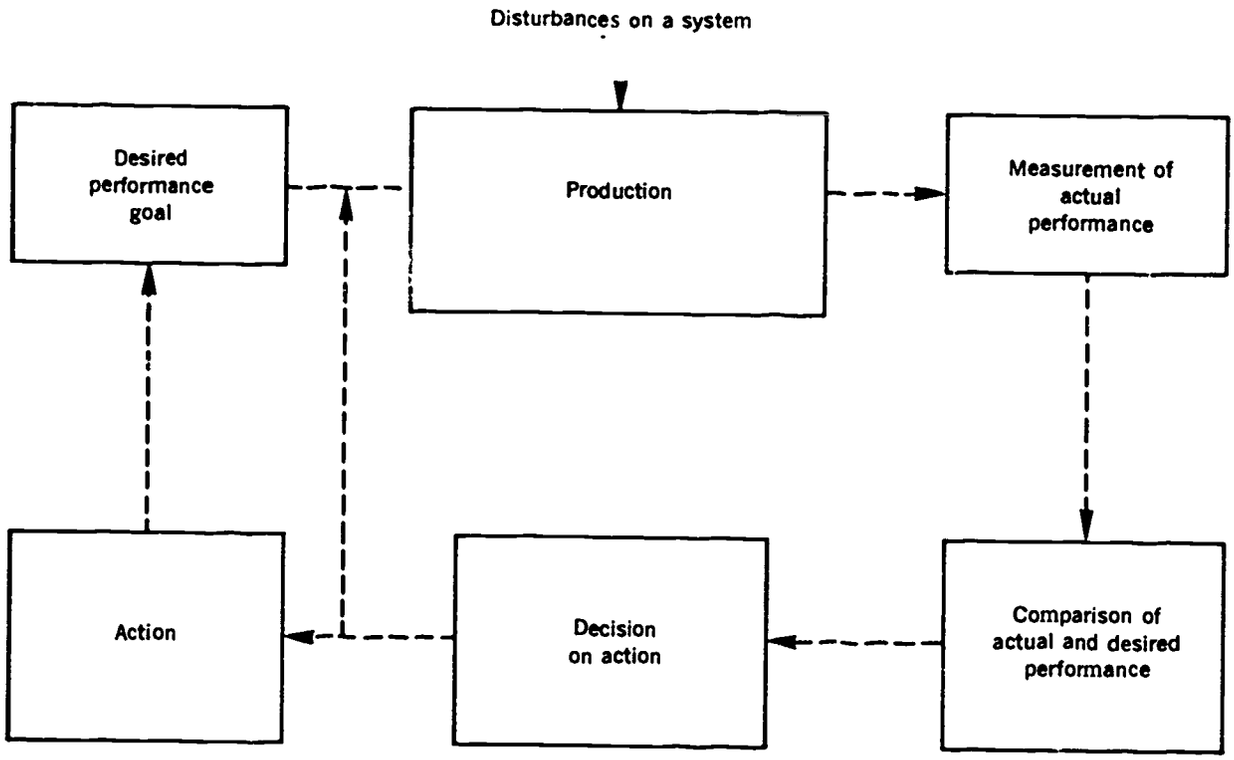


FIGURE 10—Basic Structure of a Control System



Detailed Discussion of Development And Operation of Continuous Evaluation Process

Method of Establishing Objctives: Two meetings should be established, one with randomly selected employees and one with management people. It is important that both employees and management be involved, because the objectives to be established must take into account the opinions of boh.

The process to be described here is detailed by Delbecq.[1] Place people randomly at tables so that no more than eight peo, are at a table. Have each individual nominally, without discussions, list those factors important in assessing incentive system success. Using a round robin process (each individual at a table gives one and only one of the items on his list until everybody else has an opportunity to give an item from theirs) have individuals list the items they have identified. After all items by all individuals have been placed on the board in this process a 30 minute period is allowed for discussion; during the time clarifications about potential objectives are presented and opinions are developed about the relative importance of each of the objectives. The next step is to have all the participants at the meeting select no more than eight of the objectives placed on the board and rank these in order of importance. Ther votes have been tabulated by the staff to come up w. an overall assessment of relative importance for each of the objectives. This relative importance will be essential in determining how well the incentive system is performing.

When objectives are first established an incentive system will be brand new. Therefore, neither employees nor management will have enough experience to estimate the degree to which they expect each objective to be satisfied. Three months after the initiation of the program the people will have a much better feeling for the program and will be more realistic in the appraisal of their goal. The employecs should be asked to specify levels of achievement, i.e., they should be asked to identify the degree to which each objective should be achieved over a period of time. Here, it will be important to have professional staff assist in the development of measurable objectives, such that the employees will be able to place values on each particular measure. This

[1] Van de Ven, A., and Delbecq, A., "Nominal and Interacting Group Processes for Committee Decision Making Effectiveness," Academy of Management Journal, September 1971.

is a difficult task, but one that can be accomplished and is essential if management really wants to evaluate the effectiveness of an incentive program. These objectives should be modified yearly to insure that modified aspirations are taken into account and also to insure that employees and management feel involved and interested in the program.

Example: Suppose that management and employees decide that they all would be happy if the ratio of supply and labor cost to total cost for the year is below .80 (note that the standard upon which payment is made is .83. Thus it is apparent the objective and the standard are two different things. One indicates where you desire to be and the other indicates performance needed in order to begin receiving incentive payments). Note also that the employees may not select the .80 directly. They may, for instance, decide that unless they receive a 10% bonus above basic salary they will not consider the effort involved in cost reduction worthy of benefits. Management will then translate that desired payoff into the ratio given earlier. The ratio .80 is the performance level needed to yield a payoff of approximately 10% above basic salary. Similar manipulations can be made on most objectives.

Measurement of Objectives: The measurement of objectives typically requires a clear understanding of the hospital financial position. Financial statements will probably have to be prepared much more frequently than typically occurs in the average hospital. This has an advantage beyond just the incentive system because it gives management a more up-to-date picture of organizational operation than existed in the past.

For instance, suppose the goal is to reduce the ratio of the supply and labor cost to total cost. In this plant wide incentive system a payment will be made whenever the ratio fell, let's say below .83. Each month an estimate of supply and labor cost, as well as total cost, should be made even if a payment is made to the employee only once a year. Management needs frequent data on how performance is proceeding if they hope to prevent further deterioration of the system or to build upon unexpected success of the system.

The frequency with which such measurement of performance needs to be made depends upon how likely the system is to change over a period of time. It is likely that such an evaluation should be done at least once a month. If it takes longer, the problem may be detected too late to save the incentive system.

Comparison: When the objective is measurable, control charts are useful vehicles for comparisons. The control chart is a graph on which the hospital performance is plotted each time it is measured. Also the desired level of performance is plotted on the chart. Management should decide upon a difference between desired and actual performance that would worry them. Then if such a difference occurs they should take some action.

Example: Suppose that in setting our objectives in the hypothetical incentive system described earlier, employees and management decide that if the ratio of supply to labor cost goes below .77 or above .83 that they should be worried. Management might feel that a system is too loose if values below .77 occur. Employees will receive no payment above .83 so they would naturally be unhappy. Suppose a part of the control chart is shown as in Figure 9.3. Note that .77 and .83 form the outside boundaries while .80 is the desired level. Actual performance is plotted: .79 in January, .81 in February, and so on. Note that in June performance is .76. Since the lower limit has been crossed management will probably want to identify the cause.

There are circumstances when other patterns may also worry management or employees even though a barrier has not been crossed. An example of this might be several months in a row when the ratio is one side of the desired line equal to .80.

Periodically, dips in census will make it nearly impossible to earn an incentive payment in some systems. For instance, the cost savings sharing program using manhours/patient day would be one example. One way to get around this difficulty would be to schedule vacations around periods of traditionally low census.

This chart is a value as an indicator of performance. It needs *frequent* observation of *measurable* objectives. Both are costly to provide. Both are, for management, useful information for operating their organization.

Action: When a significant deviation from desired performance occurs, maagement should attempt to determine why. Under many conditions the cause is a temporary one due to expected events such as vacations in the month of August. Other times a change is indicated. There are several areas where modifications could and should occur. Among these are:

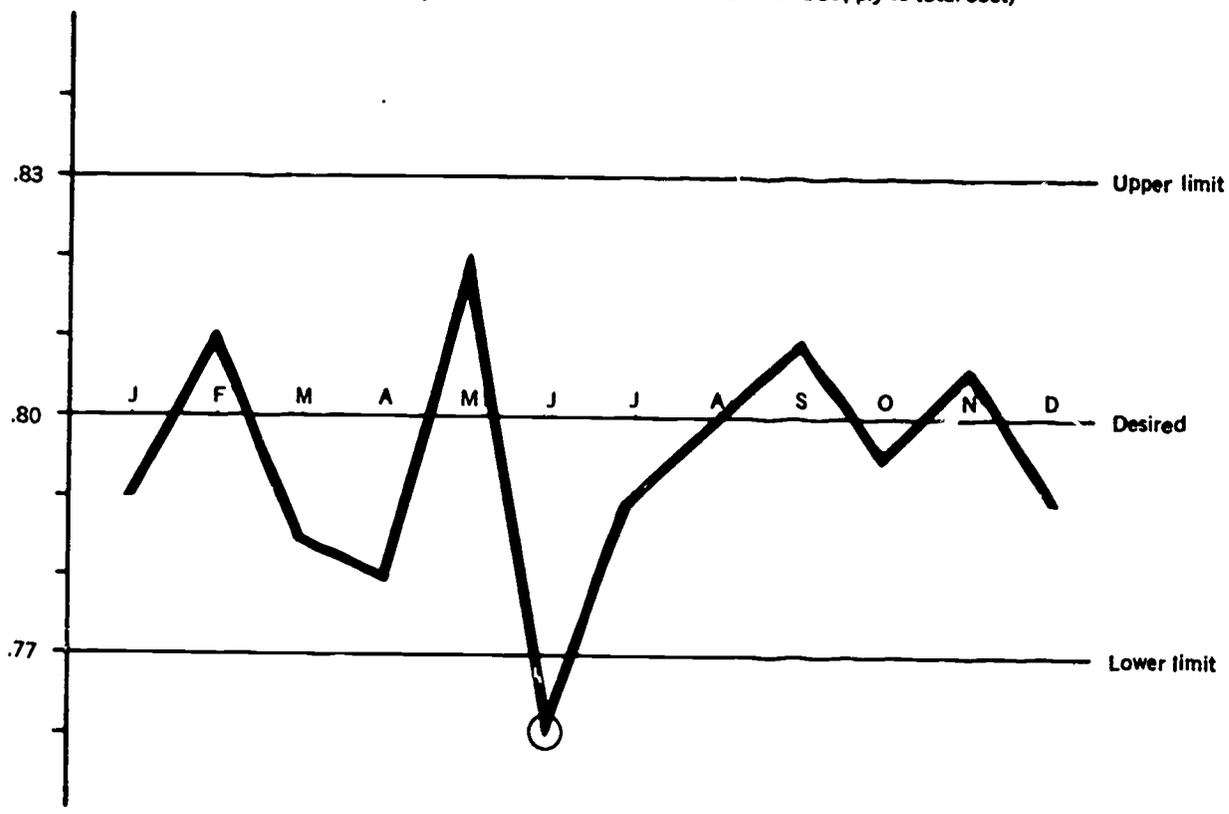
a. A change in the objectives may be needed due to a fundamental change in operation.
b. Methods of measurement may be inaccurate.
c. The jobs (profile) may have changed, requiring a change in standards, incentive system, job, or a combination of these.
d. The incentive system may itself have flaws that need to be corrected.
e. A change in personnel may be needed.
f. Equipment may be introduced that requires a modification of standards.
g. Morale of the organization may be failing.

Regardless, it is essential to detect and correct at the earliest possible time the cause for deviations from expected performance. Unless this is done regularly, an incentive system cannot be expected to continue to be successful.

Both kinds of evaluations, the periodic and the continuous must successfully be done. If they are not, one can expect demoralization and deterioration of an incentive that has been predicted by experts and observed by so many users.

FIGURE 11—Hypothetical Performance of an Incentive System as Plotted in a Control Chart

(Horizontal axis lists months in the year; vertical axis lists ratio of labor and supply to total cost)



(Circled point indicates a month when performance was outside reasonable limits)

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