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PERFORMANCE MANAGEMENT
IN
HOSPITALS

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PERFORMANCE MANAGEMENT IN HOSPITALS

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In recent years attention has increasingly focused on the management of an organization's "human resources". Achieving a competitive advantage is increasingly contingent on the degree to which organizations can develop employees' capabilities and apply them to the organization's mission. Increasingly often, departments, task groups and individuals are having to face the question of what they can do to help achieve the organization's goals. A key question here is how efforts can be directed towards the right activities, thus enabling the organization to fulfil its mission. In short, how can a situation be nurtured in which individuals, task groups and departments direct their efforts optimally towards achieving the (various) goals of the organization? This is the aim of "performance management": to make optimum use of the personnel capacity which an organization has at its disposal.

This chapter will first discuss a number of performance management principles taken from the recent literature on work motivation. Next, a newly developed system for performance management will be described. Experiences with performance management in the industry will then be examined. And finally there will be a discussion of what possible applications performance management seems likely to have in the health-care sector.

1. Performance management principles.

The literature on motivation (Kleinbeck et al., 1990; Latham and Lee, 1986; Locke and Latham, 1984; Locke and Henne, 1986) provides a number of clear answers to the question of how the situation can be nurtured in which an organization's employees endeavour to achieve the organization's goals. The most important condition for this, trivial though it may appear at first sight, is that employees should set themselves goals which bear a functional relationship to the organization's goals. Once this has been done a second mechanism comes into action almost automatically: employees become interested in the degree to which they are able to achieve the goals they have set themselves. In other words, they require feedback about the way they have performed and take corrective action themselves if the feedback indicates that the stated goals have not yet been fully realized. Finally there is a third mechanism, known as reinforcement. This mechanism refers to the way in which the organization shows its appreciation (tangibly or intangibly) of performances achieved. If the achievement of stated performance goals is followed by some form of reward, there is a greater likelihood that the actions that led to these goals being realized will be repeated.

To be effective, goals, feedback and reinforcement must meet a number of requirements, the most important of which are:

- goals must be specific, difficult, but practicable;
- feedback must be specific, relate to controllable factors and to all important areas of responsibility;
- reinforcement must consistently be linked to goal achievement.

Goals and feedback are not only key terms in modern motivation theory, they are also common in management science. It is no exaggeration to say that the control loop is a central model in management science and finds application in a wide variety of management science fields. Owing to its simplicity, the underlying idea appeals strongly to the imagination: information about a unit's input, operations or output is fed back to a controller, who compares this information with a standard (intended condition); in the event of a deviation the controller takes action so that the intended condition is still achieved. The aim of performance management is to control the performances of the smallest units within an organization: individuals and groups. Recently (Klein, 1989), the idea that the control loop model can be used here to good effect has also been advanced explicitly. The basis for this idea, incidentally, developed as a result of considerable research carried out over the past few decades both in laboratory and field situations (see the literature referred to above).

The control loop model shows that control becomes impossible as soon as one of the elements in the model is missing. The literature on motivation reveals that substantial improvements in performance are possible when elements missing from the control loop (goals and/or feedback) are introduced. Research carried out in a number of production organizations (Janssen, Van Tuijl and Algera, 1987; Algera and Van Tuijl, 1989) has shown that, at least in the situations examined, little or no use is made of the performance management principles of goals, feedback and reinforcement. It would appear to be fairly reasonable to assume that the systematic application of these principles can make a significant contribution to more efficient and more effective utilization of personnel capacity by bringing the behaviour of individuals and task groups more closely into line with the organization's key tasks. How far the scope of these principles goes is a question which cannot as yet be answered. A great deal depends on the extent to which individuals, groups and departments can be held responsible for clearly defined performances. The more difficult it is for responsibilities to be precisely defined and for performances in certain areas of responsibility to be allocated unambiguously to units within the organization, the less clear it will be who is meant to achieve which goals and who is supposed to receive feedback regarding the achievement of goals. In modern organizations performances are often the result of complex interactions between individuals and task groups. Close cooperation between all the parties involved then becomes of crucial importance. The question is to what extent the above-mentioned principles can help in managing cooperation processes. First of all we shall explain the principles themselves in rather more detail and then discuss a system based on these principles (Pritchard et al., 1988, 1989), by means of which cooperation at group level can be stimulated.

The following example will serve to illustrate the effectiveness of goals, feedback and reinforcement; it is taken from a classic field study carried out by Latham and Baldes (1975). Since then this example has become one of an impressively large collection.

The field study relates to a company operating in the forestry sector. The research centres on lorry drivers whose job is to transport chopped-up tree trunks to a timber-processing plant. Understandably, it is important that the drivers should make optimum use of their lorries' capacity: the maximum load-carrying capacity must be approached as closely as possible. In practice, however, this was not happening.

The drivers were loading their lorries to on average sixty percent of the maximum. One reason for this was probably that they risk a fine if they exceed the maximum load-carrying capacity. In order to encourage the drivers to make better use of their lorries' load-carrying capacity, the following measures were taken. First of all general goals ("do the best you can") were set for a period of three months. This measure had no effect: performances continued to fluctuate around the sixty-percent mark. Next, a specific and difficult goal was set: the drivers were asked to try to utilize 94% of their lorries' load-carrying capacity. No special course was organized on the subject of loading the lorries; the drivers were not asked to work harder or to make more trips and no financial rewards were offered. A promise was however given that if the stated goal was achieved for a short period, but it then proved impossible to maintain this improvement, for whatever reason, there would be no reprisals by management if performance fell back to the old level. Intangible rewards in the form of appreciative remarks were given for improved performances in the direction of the stated goal.

The result was that as soon as the specific, difficult goal of 94% was introduced performances improved, initially to a level of around 80%. They then fell back for a while, but when, as promised, management did not take any action, they rose to 94%. This level was maintained throughout the entire period of the survey (twelve months). Observations and interviews revealed that the drivers had added a measure of their own to those taken by the researchers: after each trip they made a note of the weight of the load they had transported and compared one another's results. Besides goals and reinforcement, then, there was also feedback and informal competition. The relevance of the effect for the company in question will be obvious. Expressed in amounts that were applicable at the time of the survey, the same results (in terms of timber transported) would have required an investment of \$250,000 in lorries for the same load-carrying capacity utilization (60%), leaving aside other costs.

The explanation for the effect is to be found in the behaviour-controlling influence exerted by specific goals: specific goals make it precisely clear what is expected, so that attention is focused on developing strategies by means of which the stated goal can be achieved. In this case the drivers took an active part in developing ingenious methods to find out approximately how many trunks they could carry. The density of the particular type of wood and the dimensions of trunks were also factors that were taken into account. Until then no one had been interested in these aspects, since the drivers' only goal had been to stay on the safe side and not exceed the set maximum whatever happened.

As mentioned earlier, the effect described above has been repeated in many laboratory and field studies and can no longer be attributed to coincidence, fortuitous circumstances or other artifacts; it can only be described as convincing empirical evidence. Of course, very many work situations are more complex than that of the drivers in the example quoted. In the majority of cases employees in the organization will be responsible for more than one type of result (such as capacity utilization in the example): quality is important as well as quantity, costs are a factor, etc. In addition, results often depend on other people: the work is done in cooperation with others or further work is done on someone else's results. If the performance management principles of goals, feedback and reinforcement, which clearly are potentially very powerful, are to be used in such situations as well, then performance management

systems are required which take into account the features of modern work situations. It must be possible to compare performances in various fields, to determine their relative weighting and to express them as an overall score. The unit whose performances are to be ascertained and to which performance data will be fed back will tend to be a group rather than an individual, since there are few functions regarding which performances are exclusively or primarily determined by the person carrying out the function. A system called ProMES, which takes these requirements into account, was recently developed by Pritchard et al. (1988, 1989). This system is discussed briefly in the next section.

2. ProMES: a system for performance management.

ProMES stands for "productivity measurement and enhancement system". The system's developer believes that performance management systems must meet a number of requirements, the most important of which are:

- the system must be capable of representing the overall performance of a unit in an organization (group or department) by means of one score;
- it must enable the total score to be broken down into sub-scores which indicate performance in the various sub-areas for which the unit is responsible;
- the unit's responsibilities must be fully covered by the system and the system must represent these responsibilities in a valid manner, taking into account the relative importance of the various responsibilities;
- the system must be flexible, i.e. changes in the conditions under which the unit works (changes which affect the unit's performances) must be capable of being taken into account by means of simple adjustments; the same is true of changes in policy which affect the relative importance of performances in sub-areas;
- and, last but not least, the system must be accepted by those concerned, meaning both those whose performance is to be managed and management.

The system developed by Pritchard et al. is actually a procedure for developing performance management systems. In other words, the basic principle is that the system has to be built up from scratch for each individual situation. It is a tailor-made system, in which it is essential that the unit for which it is being developed and the management responsible should both be involved. The system is developed in four stages, covering successively areas of responsibility ("products"), performance indicators, effectiveness curves (contingencies) and a feedback report. These stages will now be described briefly in turn and illustrated using a hypothetical example: a production group operating a machine on which corrugated cardboard boxes are made (Janssen, Van Tuijl and Algera, in preparation).

Stage 1: Determining areas of responsibility.

Determining areas of responsibility means that the unit indicates what its tasks are: what are the essential contributions it must make to the organization; what is it responsible for? The unit's areas of responsibility are ascertained during a number of meetings attended by the group, its immediate superior and a process supervisor.

The group in the example could have developed the following "products", for instance:

Product 1: operating time, i.e. using the maximum length of time for making boxes.

Product 2: quality, i.e. making boxes which meet a number of specifications.

Product 3: speed, i.e. keeping the machine speed at a high level.

Product 4: costs, i.e. making boxes at low cost.

Product 5: safety, i.e. making boxes without causing any accidents.

It is very important that the group should be in agreement about the products and their definitions. Experience has shown that the discussion about products can bring to light differences of opinion (sometimes serious) about what the group's job actually is. In Pritchard's view this is fine: "constructive disagreement is good". Talking over differences of opinion results not only in clarity and unanimity, but also in willingness to work closely together in order to perform the job that has to be done. Afterwards there is better understanding about what is important and what priorities have to be set.

Stage 2: Determining performance indicators.

The group follows the same procedure as in stage 1 to produce performance indicators: yardsticks which accurately reflect the degree to which the group succeeds in fulfilling its responsibilities. At least one indicator is developed for each "product", but more than one is allowed if the "product" consists of a number of clearly differentiated aspects. The following indicators might be developed for the "products" listed above.

Product 1: operating time.

Indicator: the percentage of time during which the machine is producing boxes; this is determined by dividing the operating time by the operating time plus the setting time plus the time lost due to failure (failure of the type which the group could have prevented).

Product 2: quality.

Indicator: the number of complaints received from customers relating to orders produced during the period being measured.

Product 3: speed.

Indicator: The number of machine strokes per operating hour (a sheet of corrugated cardboard is turned into one or more boxes at each stroke).

Product 4: costs.

Indicator: the number of sheets of corrugated cardboard wasted during production.

Product 5: safety.

Indicator: the percentage of employee absence due to sickness arising from accidents while working.

Wide differences of opinion are also possible about the choice of the correct indicators and during this stage too it is important to devote a good deal of attention to this aspect. The indicators are in fact the operationalized representations of the group's responsibilities. Incorrect choices here could produce particularly negative effects for the organization or give rise to inequities for the group. Since in the example in question the group had no control over the number of boxes produced (because the number of boxes punched out of a sheet of cardboard can vary from order to order), the number of machine strokes was taken as the indicator rather than the number of

boxes (one sheet is processed per machine stroke). As soon as the group has reached agreement about the choice of indicators, a meeting with management is called. At this meeting the group presents the products and the corresponding indicators to management. This is followed by a discussion, which may result in details of products or indicators being modified, added or removed. It is important that this should always be done on the basis of objective arguments and that agreement should be reached between the group and management about the final definition of products and indicators. Experience has shown that these discussions can lead to unclear areas of responsibilities being removed or to a group being allocated the resources to enable it to fulfil a particular responsibility. For example, in the case of the cardboard boxes group, the group may accept responsibility for failures on condition that it is allocated the resources (time) to maintain the machine.

Stage 3: Determining effectiveness curves.

What stage 3 essentially amounts to is that all indicators are expressed in the same unit (effectiveness) so that performances in different indicators can be compared and added together. This is done in such a way that the relative importance of performances in various indicators is taken into account and that allowance is also made for aspects such as "diminishing returns" of very high performances compared with somewhat lower performances. The procedure for this is described briefly here, but for further information the reader is referred to the original publications (Pritchard et al., 1988, 1989).

The maximum performance which the group can achieve is determined for each indicator. This is often done on the basis of historical material. The group is then asked to arrange these maximum values according to their importance for the organization. The most important maximum value is assigned the value 100 on the effectiveness scale and the other maximum values are expressed as a percentage of this 100. For each indicator the performance level is then determined which represents a reasonable performance: not good, but not bad either. These performance levels are all assigned the value 0 on the effectiveness scale. Next, the minimum performance level is determined for each indicator. This minimum value represents the worst performance which the group has ever achieved for the indicator in question (here again historical data can often help in arriving at a realistic estimate). The minimum values are arranged in the same way as was done for the maximum values, except that the minimum values are given negative effectiveness values. This last step means that all other performance levels between the maximum value and 0 are allocated a positive effectiveness value and all those between 0 and the minimum value a negative one.

The total procedure gives a curve for each indicator which shows precisely which effectiveness value corresponds to which performance level for that indicator (see Figure 1 for an example). A number of conclusions can be drawn from the shape of the effectiveness curves. The steeper the curve, the greater the rise in overall effectiveness achieved when the performance in the indicator increases by one scale value. If curves level off at the top or bottom, this indicates that an increase or decrease in performance in the areas concerned results in no or very little rise or fall in the unit's effectiveness. Inspecting the effectiveness curves can thus be an important tool when

a unit is considering the best strategy for improving effectiveness. Ways in which this can be done are explained in stage 4.

Stage 3 is concluded by a discussion with management. The group (including group leader) and management must be in agreement regarding the shape of the effectiveness curves and the relative positions of the curves with respect to one another. The reason for this is that these curves express what the group has to do for the company, and in particular how important various performance levels are for the company. Essentially the curves reflect corporate policy, or at any rate what the group can do to help achieve policy. It is therefore self-evident that there should be intensive consultation on this point between the group and management. There is no possibility whatsoever of ambiguity in these discussions, since the group's responsibilities are clearly operationalized in the indicators and the relative importance of responsibilities is reflected in the effectiveness curves. All concerned therefore know exactly what they are talking about. Experience has shown that the resulting clarity is felt by both sides to be very pleasant. The process leading up to this clarity can of course involve threatening moments: people must also be prepared to stick their necks out.

Stage 4: Writing the feedback report.

Eventually the procedure results in a feedback report which provides the group with information about the performances produced during the period recently ended. First of all the length of the period is determined about which feedback is to be provided, say a week or a month. The length of period chosen depends largely on the nature (cycle time) of the work. Variability of activities or circumstances that affect the group's performance level play an important part. If in the machine group example the nature or the size of an order were to affect the operating speed or the amount of scrap, a period would have to be chosen which is sufficiently long to ensure that such variations are averaged out. Once the period has been decided on, all that needs to be done is to record performance scores during the agreed period, convert these performance scores into effectiveness values and add these values together to give an overall effectiveness score. The outcome is then set out in a feedback report, which for the example in question could be something like that shown in Table I.

The feedback report is discussed by the group and the group leader as soon as the relevant period has ended. The discussion covers the group's overall effectiveness score, the individual scores, causes of high or low scores in these individual components and strategies which the group could pursue during the coming period to sustain or improve performances. It will be clear from the description of the system so far that positive scores represent performances which are better than what would normally be expected from the group and negative scores reflect performances which are inferior to those generally produced by the group. Experience has shown that the feedback report prompts intensive discussions about working methods and conditions. In the example referred to above procedures for setting the machine were modified so as to reduce the setting time and thus increase the operating time. The group also embarked upon intensive discussions with its environment, with the result that a wide range of improvements to the supply of materials and tools was implemented.

PROMES is characterized by two essential elements: participation and consensus. Participation by those for whom the system is intended is necessary for a number of reasons. First, these are the people who are most familiar with the work and a thorough knowledge of the work is required at various stages of the development process. Second, if the system is to function properly it will need the cooperation of those whose performances are to be measured. This cooperation can only be obtained if those involved feel that they have produced their own system, something which requires the participation of at least representatives of the group or groups for whom the system is being created.

The second essential feature of the procedure is consensus along the hierarchical line. This consensus is not only required because of formal considerations. At least as important is the fact that it results both the group and management becoming committed and being able to discuss matters. In addition, management involvement in an intensive discussion on "what the group's task is" also gives rise to involvement in the problems which the group encounters in this regard. The immediate reason for this is often a crucial requirement which has to be met by "products" and "indicators", viz. the requirement that the group must be able to control them. In the example, a discussion about the extent of the group's control over failures resulted in better agreements on maintenance; these agreements made it acceptable for the group to assume responsibility for some of the failures.

3. Experience with performance management.

PROMES was developed and tested by Pritchard and his colleagues in a section of the United States Air Force. Five departments were involved in the research, including a maintenance department and a number of sections of a warehouse. Each department went through the process, from determining areas of responsibility to developing the feedback report. As soon as the indicators were known, a department's performances in those indicators were recorded for the purpose of gathering "baseline" information. Only when baseline information was available covering a period of nine months did the department receive feedback on the performances achieved. This took place over a period of five months, after which, for a further period of five months, feedback was used and specific, difficult goals were set. For a final period of five months a reward was also linked to the achievement of stated goals.

From the moment that feedback was provided (in terms of overall effectiveness scores based on the developed effectiveness curves), the performances of all departments displayed a strong upward trend. Expressed as a percentage increase of the baseline performance with respect to the maximum possible performance, the period during which only feedback was given shows an average increase of 50%, the period with feedback and goal setting an average rise of 75% and the period with feedback, goal setting and rewards an average increase of 76%. The addition of rewards (reinforcement) to feedback and goal setting does not therefore appear to have much additional effect. Given the design of the study, of course, conclusions about the potential effects of rewards as such should not be made. But these effects do exist.

During the same period no performance improvement at all was observed in control groups. The performances of those departments which themselves retained the system remained constant at the same high level even after the researchers had departed. It should be mentioned that the improvements in performance achieved by Pritchard with ProMES are greater than those which are "normally" reported in the relevant literature. At the moment no final results are available from ProMES projects being carried out in European organizations. What can be said, however, is that the initial experiences in two industrial companies in the Netherlands justify the expectation that ProMES can readily be transferred to the European situation and that substantial improvements in performance are practicable.

Assessment of the improvements in performance that are potentially attainable can be made by examining the degree to which performance management principles such as goal setting, the provision of feedback and reinforcement are currently used in daily practice; such a method would appear to indicate that considerable improvements are possible. A specially designed questionnaire was used to evaluate three different work situations in three different companies; the following results were obtained (for more details see Algera & Van Tuijl, 1989):

- although employees generally know what they are responsible for, specific goals are rarely set; where this does happen, the goals do not usually cover all areas of responsibility; it is much more common for specific goals to be set for an area of responsibility such as "quantity" than for an area of responsibility such as "quality" ;
- goal acceptance, a necessary precondition for the success of goal setting, is often impeded by the lack of supportive leadership;
- in general, a great deal of information about performances is gathered, but little of it is fed back to those concerned (those who have carried out the performance); where feedback does take place it is not regarded as being particularly useful: too late, incomplete, hard to understand;
- both for feedback in general and for feedback received directly from management, the information in question usually relates to errors made and rarely to work done well.

In addition to the conclusion that many opportunities exist for improving existing performance management practices, a general conclusion was that these existing practices have a large number of unintended side-effects. For example, if a large amount of information is gathered and fed back about the area of responsibility "quantity" (amount produced, lead times), this results in a great deal of attention being devoted to "quantity". If at the same time little information is being gathered and fed back regarding "quality", "quality" will receive less attention than "quantity". Precisely this situation was encountered in a company in which every employee was aware of the fact that "quality" was "supposed" to be given the highest priority. In this case, then, the most important area of responsibility was not supported by proportional attention being devoted to it as regards information gathering and feedback. Another common example is provided by temporary campaigns drawing attention to, say, safety or energy consumption. Usually these produce the required results - for a time - but often this is achieved at the expense of performances in other areas of responsibility. It is not uncommon for this to result in a zigzag course: say a lead-time problem is ascertained and everyone is summoned to remedy this.

Lead-time information is recorded for a certain period and fed back, with the result that lead time become shorter or more reliable. Someone then discovers that quality has suffered as a consequence. Alarm bells ring and for a while all attention is focused on quality, until ..., and so on.

The conclusion to be drawn is thus twofold: the performance management principles of goal setting, provision of feedback and reinforcement are little used, at least in the situations investigated; where they are used it is often forgotten that the principles must be applied to all important areas of responsibility so that employees' attention is distributed optimally between all these areas.

4. Possible applications of performance management in the health-care sector.

There are various reasons why performance management as a component of personnel management is important for organizations in both the profit and the not-for-profit sector. A first consideration is that in qualitative terms people's performances decline when they receive no information about the effects of their actions. In models relating to human information processing (see Carver and Scheier, 1981), for example, feedback is a central element. Feedback is also a central element in theories on task design (Hackman & Oldham, 1980). Considerations of work quality (motivation and satisfaction) should in themselves be sufficient reason for screening task situations carefully with regard to their feedback quality. The growing awareness of the crucial importance of human resources for organizations and companies, referred to at the start of this article, is indicative of a third reason for taking performance management seriously: the competitive advantage. A reason which is certainly an important factor in the health-care sector is the need to do more with decreasing resources, whilst maintaining and preferably improving existing quality levels. The efficient and effective utilization of staff, which is precisely what performance management is about, is an important means of achieving this goal. This expressly does not include techniques which result in every last drop being squeezed out of staff. The purpose of performance management is to focus attention on the key responsibilities. Another of its aims is to fulfil those key responsibilities in the most efficient way possible, which is not the same as constantly working as hard as possible. The motto could be "to work sensibly on the right things".

In the hospital world a wide range of developments relating to management science are taking place to which performance management as described above could be an important supplement. In addition, it is of course the case that many groups and departments in hospitals are very well suited to develop and apply ProMES performance management systems. Implementation of such systems will be easiest in groups and departments which make an independent contribution in terms of production or services. Where products or services are supplied as a result of close interaction between (many) different groups or departments and individual contributions are difficult to isolate it will be harder to develop ProMES, though not necessarily impossible.

A number of developments are discussed below to which ProMES could be a useful supplement.

- Admissions planning.

A great deal of research has been done recently in the field of admissions planning (Groot, 1989; Kusters, 1988). Groot (1989) defines the goal of admissions planning approximately as follows: the aim is, on the basis of forecasts of the availability of bed capacity, data on the availability of nursing capacity and operation capacity, to make admissions decisions such that (1) the three capacities mentioned are utilized optimally and (2) the length of time that patients are on a waiting list is kept to a minimum, the time between notification and admission is between three and seven days and the time between admission and discharge is as short as possible. This means that admissions decisions involve at least two key responsibilities: (1) the utilization of capacities and (2) the throughflow of patients. The figures for degree of utilization of the above-mentioned capacities and the above-mentioned times can immediately be used as indicators to show how successful the Admissions Planning Office has been in fulfilling these responsibilities. A crucial question is then to what extent degrees of utilization and throughput times are under the control of the admissions planner(s); or, what other factors also exert an influence and to what degree? Assuming that arguments have convinced us that the influence of the admissions planner(s) is substantial, then it is worth considering the development of a performance management system in which the six indicators mentioned can play an important part. Two follow-up steps that ought to be taken so as to give performance management qualities to information about performances in these indicators would be to develop effectiveness curves and a feedback report. The first step is a very important one in this case, since the relative importance of capacity utilization versus patient throughput is brought out in these curves. This requires pronouncements from the organization. The Admissions Planning Office implements a policy, may itself have ideas about priorities, but does not make decisions on these matters. In concrete terms this means that, if we restrict ourselves to the six indicators mentioned, we must examine what the maximum performance is in each of these indicators and, in particular, which of these maximum values is the most important for the organization. Achieving a maximum performance in all six indicators at once will never be possible, since high degrees of utilization can only be realized at the expense of throughput time (Bertrand, 1988). However, the decisions taken by the admissions planner(s) should be guided by the combined values of the effects of these decisions on all six indicators. The effectiveness curves described in section 2 are required in order to determine this overall effectiveness. The feedback report is needed to show the Admissions Planning Office with periodic regularity how good its decisions have been in terms of their effects on the organization.

A number of factors (Groot, 1989) make it difficult for sound admissions decisions to be taken. Some of the decisions are not taken by the admissions planners themselves, but by doctors (emergency admissions); data on available capacities are to some extent uncertain because discharge decisions are made by third parties (doctors and nurses) and because it is not known in advance what these decisions will be; a third uncertain factor is the lack of reliable data on the capacity utilization of non-surgical patients. All of which means that admissions decisions may produce

better or worse results depending on the behaviour of these factors, over which the admissions planner has no control. In addition, the usual factors (waiting list data, duty rosters) may create a better or worse initial position for the admissions planner(s): sometimes it will be easy to take admissions decisions which have favourable effects on the six indicators and at other times it will be difficult or impossible, because the situation allows no scope for a better solution. As regards the applicability of a performance management system such as ProMES in the case of admissions planning, it is very important, as was stated earlier, to be able to make a pronouncement on the degree of influence exerted by admissions planning on the six indicators as opposed to the influence on them exerted by factors other than admissions decisions. If the influence exerted by admissions decisions is marginal, there is no point implementing performance management (though the same could then also be said of admissions planning itself); if this influence is substantial then performance management makes sense. An important question is then what length of period should be selected for the feedback so that the effects of uncertain, uncontrollable factors can be allowed to average out and thus provide an accurate picture of the actual performance achieved by admissions planning (it may also be found necessary to compare performances with those of comparable periods in the past, for example where seasonal patterns occur).

An important distinction can be illustrated by means of admissions planning: that between performance management information and decision-support information. Performance management information always relates to the degree to which individuals, groups or departments fulfil their responsibilities (in other words, how well they do their work). In the case of admissions planning, information relating to the achieved capacity utilization is performance management information. Decision-support information is information used by individuals, groups or departments to provide maximum support for the decisions which directly affect the degree to which they fulfil their responsibilities. In the case of admissions planning, forecasts of expected emergency admissions and forecasts of the expected capacity utilization of a particular category of patient are examples of decision-support information. This information is used to enable the best possible decisions to be made. Performance management information tells us something about the degree to which this goal has been achieved. Some confusion could be caused by the fact that the same information about, in this case, capacity utilization serves both as performance management information for the admissions planner(s) and as decision-support information for those in the organization who are responsible for accurately coordinating capacities. An additional source of confusion may be the nomenclature of the information concerned: in the latter case the term management information is often used.

- Quality control and cost control.

Several Dutch institutions in health care recently organized a symposium entitled "Managing health care: quality and information" (NZI et al., 1989). At this symposium the first results were presented of a number of sub-projects forming part of the "Information provision for health-care processes in general hospitals" project, carried out under the auspices of those institutions. The projects can be set against the background of the growing need for methods that can provide cost control, while maintaining or preferably improving quality.

This short discussion only allows us to deal with those characteristics of these projects which are relevant to performance management.

The procedure followed in the projects is to select as the starting-point the primary process in the unit in question. This approach has many of the features of a bottom-up technique: the project is carried out by the people who are directly involved in implementing and arranging the primary process. Of the key words quality and information, quality is intentionally placed first. The information referred to is information required to make the primary process more efficient and more effective. A random selection from the preliminary results reveals that good results can be obtained in the fields of production control, quality control and cost control:

- an operational-research cost-effectiveness analysis resulted in a reduction in the number of X-ray photos taken to 35% of the historical production for the same quality and with an increase in processing speed;
- overrunning of consultation appointments was reduced by means of a roster survey;
- it proved possible to reduce the interval between patient examination and results, the number of outpatient visits and the number of second-consultation patients requiring additional examinations;
- by improving the provision of information it was possible to clarify the current status of examinations to be carried out on patients.

It is notable that in all these cases performance improvements are reported for indicators which can be considered as subdivisions of the respective unit's or the next highest level's responsibilities. It would appear, however, that these performance improvements are regarded as one-off demonstrations of the positive effects of the projects. One could, however, go much further. Permanent attention to cost control and quality can be fostered and sustained by providing regular feedback on the degree to which these responsibilities are being fulfilled. The projects clearly demonstrate that improvements can be made in these fields and that measurability need not be an insurmountable problem, as is sometimes claimed, especially where quality is concerned.

This does not mean that it is a good idea to start recording and feeding back performances for all indicators which are developed as part of one-off projects with limited objectives. This would make the chances of bureaucratization very high: endless lists of performance information and no one able to see the wood for the trees. A better plan is to try to compile a list of main points, so that the entire range of responsibilities is covered and the most important priorities remain visible. ProMES explicitly provides facilities for doing this. It would therefore seem obvious to expand the provision of information for health-care processes by adding information relating to the results of health-care processes, since this information can also make an important contribution to improving quality, while at the same time reducing costs. As was stated earlier, in this context an approach based on the ProMES system looks very promising.

5. Concluding remarks.

This chapter dealt first of all with the importance of performance management for organizations and the principles underlying effective performance management. Next, a system for performance management was discussed and the effects that can be achieved with such a system were indicated. Taking a look at current practice, it was found that all the available information indicates that little or no systematic use is made of the performance management principles discussed. While performance rewarding is a topic that generates a great deal of interest, the attention devoted to the basis for this, a coherent description of responsibilities and performance indicators, is relatively slight. Similarly, there is little interest in forms of feedback which provide information far more quickly and more accurately than annual performance bonuses and from which a far more direct effect can consequently be expected.

Dealing specifically with the hospital situation, a number of possibilities for performance management were indicated. The examples discussed comprise a completely random selection and the question of what is the best place to start a performance management project was not addressed. In conclusion, for those who would like to know whether a performance management project is practicable in their own particular situation, there follow briefly a number of preconditions which should certainly be looked at.

First of all it is important that all involved realize that performance management projects are time-intensive projects with a long throughput time. There are no short-term successes to be achieved. Developing a system such as ProMES requires a series of meetings and a great deal of reflection in between the meetings. The product of this process will be the group's view of what its key responsibilities are.

The next precondition is that everyone must be aware of the importance of enhancing productivity, both for the organization as a whole and for the unit in question. If productivity enhancement is not an issue, it must be made one by means of argumentation. There should be a minimum of mutual trust between the organization unit developing a performance management system and management. Sometimes a guarantee will have to be given that no improper use will be made of the system or of information made available during its development. There must be a willingness to measure performances. In some cases existing information systems will have to be modified so that they are able to produce the required data. A great deal of the necessary information, though, will often already be available. In such cases the process of developing a performance management system is found to be an excellent tool for selecting useful performance management information from the available data.

A further condition is a stable management team which is committed to the principles of performance management and which also propagates this clearly in words and deeds. Frequent management changes, combined with constantly changing ideas about management and priorities, make systematic performance management very difficult. If in addition no actual support is given to performance management projects, this is implicitly tantamount to saying that they are not really important.

Another prerequisite is understanding of performance management principles. Well-known sayings from the management literature, such as "What you measure is what you get", "Nothing breeds success like success", etc. are straightforward, concise expressions which are fully in keeping with the principles taken from motivation theory that have been discussed. People must realize, either with or without the assistance of such slogans, that things "really work like that" and that therefore you might as well simply take them into account.

The final, and essential, precondition is that employees must not only be regarded as a critical success factor, but that that is also what they actually are. Where organization results are primarily contingent on the quality and dedication of personnel, performance management is a viable option.

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Production rate

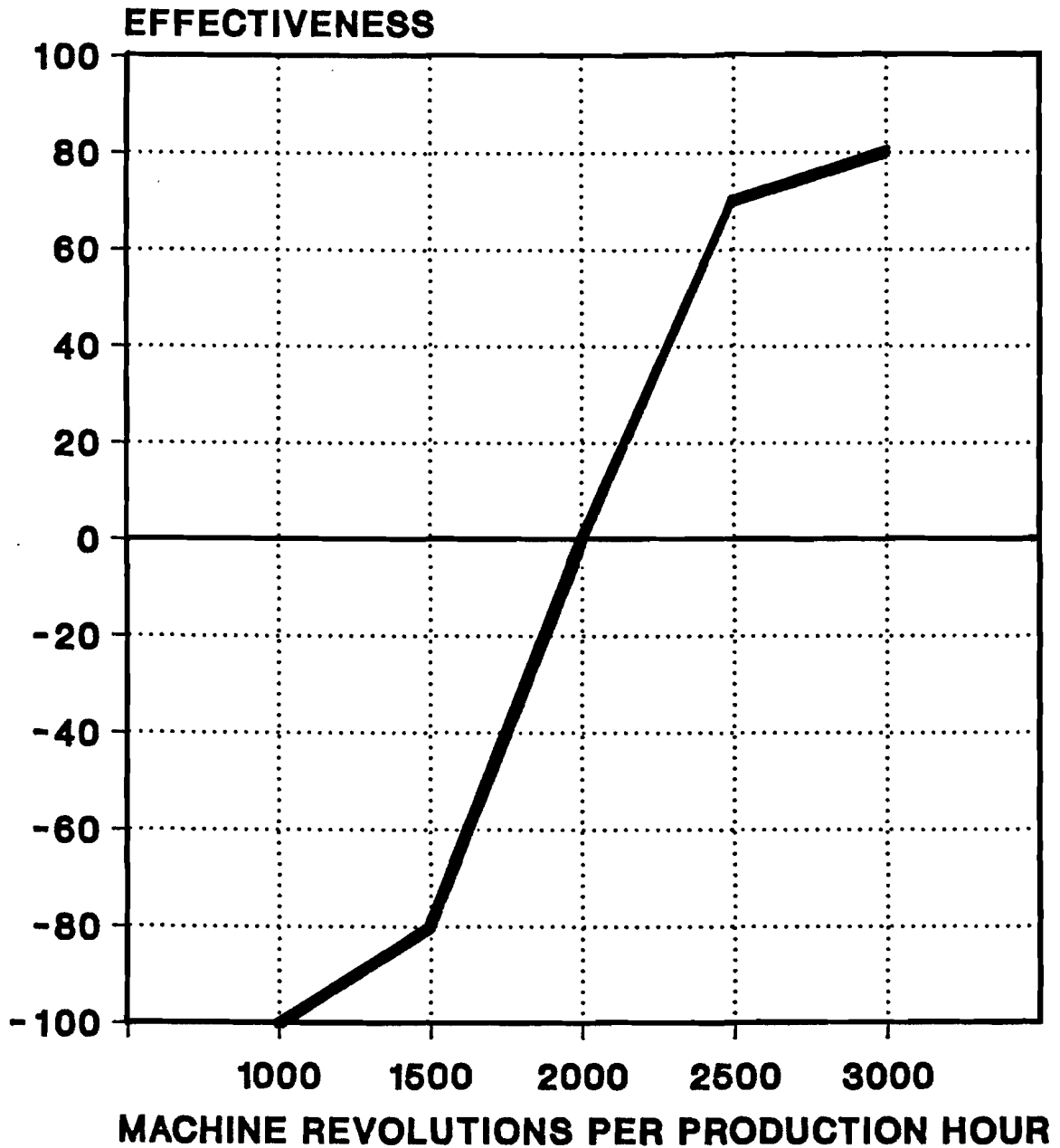


Figure 1. "Effectiveness" curve for "machine revolutions"

Table 1
Example of Feedback Report

Productivity of Machine Group: X
Period: May 19..

Products and	Indicator data	Effectiveness score
Operating time - percentage up-time	84%	+20
Quality - number of complaints	2	-5
Speed - number of machine strokes	2250	+40
Costs - number of sheets wasted	65	-10
Safety - percentage of absence	3%	-5
Overall effectiveness		<hr style="width: 10%; margin: 0 auto;"/> +40