

Hospital leadership for quality: Theory and practice:

II. Quality performance evaluation

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Abstract

Hospitals need excellent leadership to be efficient in the use of scarce stakeholder resources and to be effective in the competitive provision of services to multiple customers. This paper is the second report on a study conducted with the cooperation of the executive team at a large government-funded hospital in Brisbane, Australia. The overall study focused on linking the leadership concepts and attributes of the members of the executive with an overall evaluation of quality practice in the hospital. The first paper reported the leadership results. This paper reports the quality practice and its links with leadership. The study revealed use of data, understanding of processes and the formation of supplier partnerships as the areas of hospital activity most limiting the ability to improve. Little impact of leadership attributes was found, contrary to studies conducted elsewhere. This may be due to the strong influence of different professional groups within the hospital, since domains of leadership influence largely coincided with these groups.

Introduction

Australia spends approximately 8 per cent of gross domestic product on health care (Australian Institute of Health and Welfare 1993) and has done so for many years, despite the increasing range and sophistication of the health care technologies available. Due to constant pressures for increasing expenditure, cost-containment and a decrease in spending within public hospitals have been major policy thrusts of government. To meet the challenges of cost-containment, a system of casemix funding similar to the diagnosis related group system developed in the United States (Fetter & Freeman 1989) has been developed, with a concurrent requirement to develop policies in the quality management/best practice area. Such an environment is meant to encourage micro-economic reform of the workplace. This is a federal government policy for all workforce areas; it is not unique to health.

Total quality management (TQM) is an approach to management that focuses on improvement in the quality of goods and services supplied to customers as the key to business success (Palmer & Saunders 1992). A considerable body of empirical evidence suggests that the benefits of TQM include higher quality products and services, produced more efficiently, resulting in improved business performance (among many sources of these claims are Joiner & Scholtes 1985; Deming 1986; Foley 1987; Garvin 1988; Berry 1991; Walton 1991). Hospitals

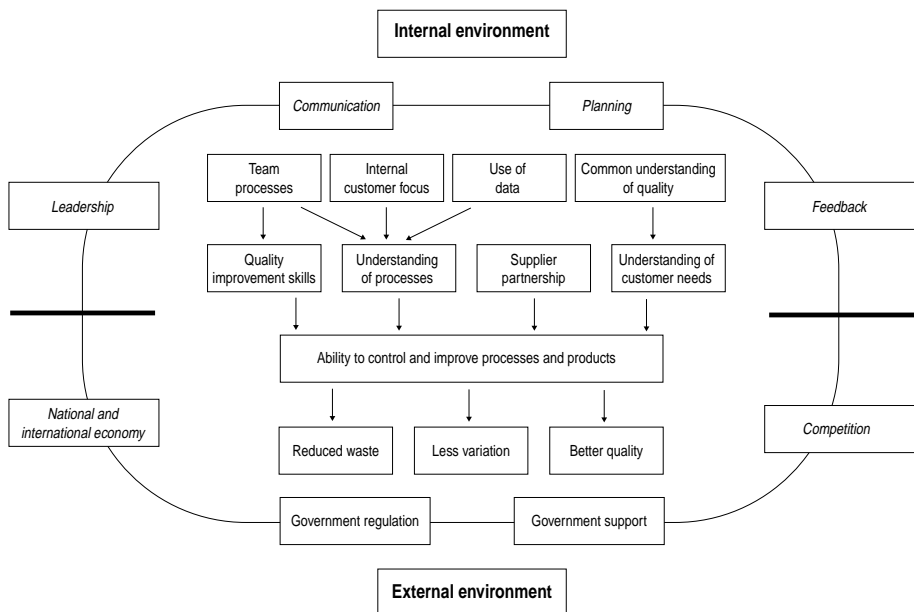


Figure 1: The S-P Model of total quality management

are also turning to TQM as a means of achieving the gains in efficiency and effectiveness that are called for in an increasingly challenging environment (Badrack, Preston & Saunders 1995). While some are finding difficulties in implementation, as noted by Ross et al. (1996), there are examples of notable success. Among these are the Wesley Hospital in Brisbane which received the 1995 Australian Quality Award. Badrick, Saunders and Preston (1996) report on the progress of 29 Australian hospitals which are implementing TQM programs.

There is considerable consensus that committed leadership is instrumental in implementing TQM (Juran 1989; Waldman 1993; Preston & Saunders 1994). Despite this, there has been very little empirical investigation applied to leadership specifically for the purpose of quality management.

Preston and Saunders (1994) provide an approach to defining the nature of leadership required for implementing TQM. Their approach, the 'S-P Model', is summarised in Figure 1. The major components of the TQM process are identified, including internal and external environmental contingencies. More detail of the model is given in Saunders and Preston (1994a).

The S-P Model is not prescriptive about the means of achieving the benefits. This allows it to be adaptable to a range of organisations. It also provides a basis for assessing organisational structures, such as:

- infrastructure for the quality initiative, which must provide resources to support the components of the model
- education and training, which has to address the components of the model to enable staff to fulfil their roles
- leadership to support and give direction to the TQM initiative.

In particular, the model shows that leadership for TQM has to support each of the components, and hence provide a framework for leadership. The S-P Model also provides an approach for evaluating TQM implementation in organisations (Saunders & Preston 1994b), which has been used in this study.

The goals of the study

The study had the following specific aims.

1. To identify perceived important aspects of hospital leadership through the identification of existing conceptual models of leadership held by members of the executive group of a large public sector hospital.
2. To compare the conceptual model of leadership espoused by members of the executive group with the 'Augmentation Model of transformational and

transactional leadership' of Bass and Avolio (1990), which we refer to for brevity as the 'MLQ Model' after the Multifactor Leadership Questionnaire used to evaluate leadership against the model.

3. To assess leadership performance of the executive group on the basis of the externally derived MLQ Model using self and colleague ratings.
4. To estimate performance on the internally derived model of hospital leadership through item category matching.
5. To relate overall hospital performance in TQM implementation to the leadership models and style of the executive group.

The first four issues were addressed in the first report on this project (Preston et al. 1995). This report focuses on the assessment of TQM implementation and its link to leadership effectiveness.

Materials and methods

The project was undertaken over a six-month period with the cooperation of the executive group of The Prince Charles Hospital, a large, publicly funded teaching and research hospital in Brisbane, Australia. The hospital's clinical service is available to the State of Queensland, being the only public hospital to offer comprehensive cardiology and cardiac surgery services and thoracic medicine and surgery services. It also provides other services (geriatrics and extended care, elective orthopaedics and mental health) to the local community. The executive group included the Chief Executive Officer, Executive Directors of Medical Services, Nursing Services, Corporate Services and Community and Residential Services as well as the Director Clinical Support Services and the Manager Finance.

The project consisted of a number of components as depicted in Figure 2. The components relating to leadership assessment on the right hand side of the diagram were described in detail in Preston et al. (1995).

The extent of implementation of TQM was evaluated using survey instruments based on the S-P Model (Saunders & Preston 1994b). The instruments assessed quality activities which lead to an organisation's ability to improve. The staff of the hospital were divided into three levels:

1. Executive group
2. Supervisory
3. Non-supervisory.

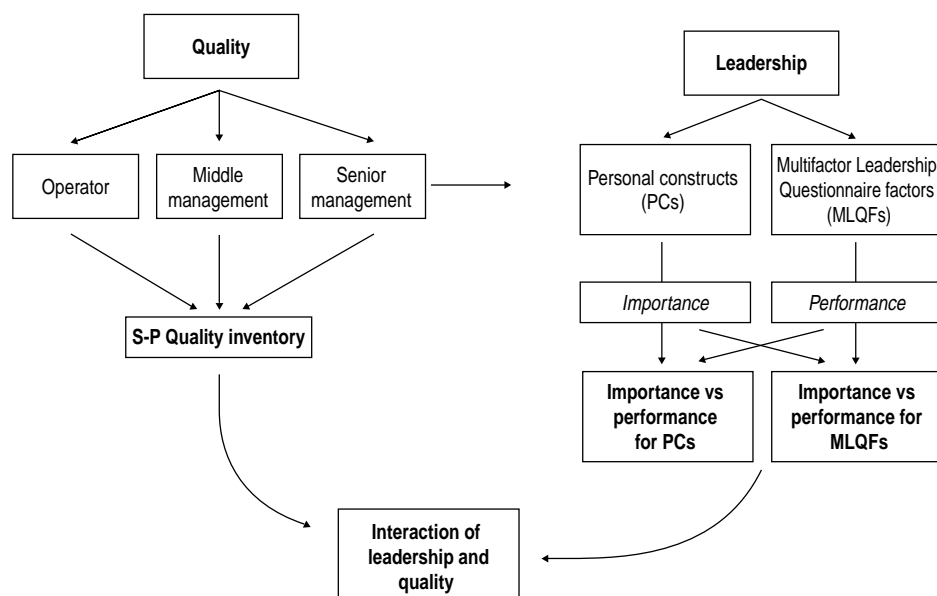


Figure 2: Project overview

Executive group members were interviewed about their views and perceptions of the hospital's quality activities and about their involvement in them. All seven members of the executive group agreed to participate.

In addition, questionnaires were developed to assess the S-P Model components as seen by non-supervisory and supervisory staff. They included questions which addressed the various issues relating to each component drawing on experience with previous studies. Saunders and Preston (1994b) describe in detail the issues to be addressed for each component. For example, 'Use of data' includes both the knowledge of data analysis techniques and their use, so questions contributing to this component covered the knowledge and use of particular tools and also the extent to which data was being collected.

The questionnaires were sent by internal mail to a sample of other staff of the hospital. The membership of the sample was chosen by stratified random sampling, giving proportionate representation of staff in five functional areas:

1. Administration
2. Medical
3. Nursing
4. Operational
5. Professional.

A total of 55 supervisory staff and 91 non-supervisory staff were sent questionnaires. The return rates were 60 per cent (33 returned) and 58 per cent (53 returned) respectively.

Each response was assigned a value from 0 to 4, where 4 was the most supportive of the quality initiative. A score for each S-P component can then be calculated as the average of the scores of the related questions.

Figure 3 shows a diagram that has been developed to relate the scores for each component of the model. The circles represent the component scores, with all white indicating a zero score and all black the maximum score of 4. The display makes two aspects of the results clear:

1. The components where the organisation is weak.
2. The root causes, at the higher levels of the model, for low scores at lower levels.

Results

Executive group

The executive group questionnaires were summarised and converted to scores for relevant components of the S-P Model. The analysis was necessarily less formal than that for supervisory and non-supervisory staff, since the data were less structured and the sample size (7) was smaller. The outcome and environmental components were not directly addressed, since the focus was on the activities of the executives and their perceptions of the activities of others.

The results are shown in Figure 3. The diagram is typical of an organisation that is in the early stages of implementing a quality program, since scores overall are low and the highest scores are in the top layer. The understanding of the importance of a focus on quality is well developed, but has not yet been translated into systems to determine and communicate those needs. Badrick, Preston and Saunders (1995) found similar patterns in a study of 25 hospitals.

The scores for 'Use of data' and 'Quality improvement techniques' were the lowest. These scores represent the executives' perceptions of their staff's capabilities in these areas, indicating that they have been given little priority.

There was also a low rating given to supplier partnerships. Only one member of the executive group spent more than one hour per week with suppliers and four of the seven had no contact with suppliers. This accords with the results of Badrick, Preston & Saunders (1995) who consistently found a lack of a focus on partnerships with suppliers.

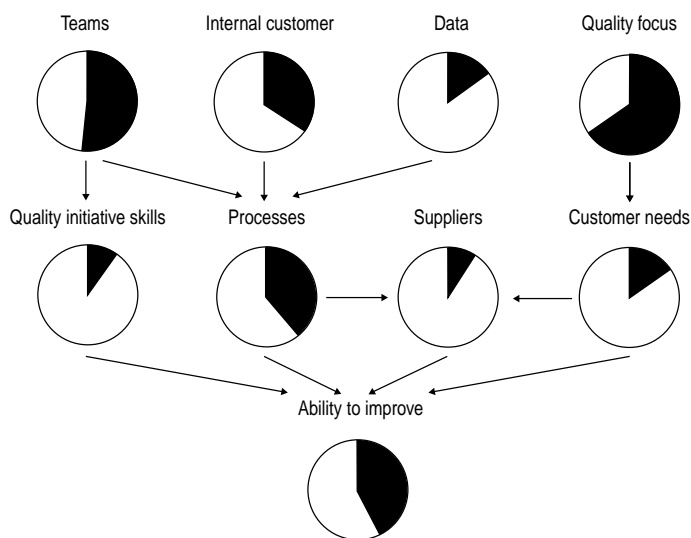


Figure 3: Executive group S-P Model assessment

A number of questions were asked in the interviews with senior management that related to questions on the supervisory and non-supervisory questionnaires. The executives' responses on these interview questions were compared with the results of the questionnaires. One notable feature was the number of 'Don't Know' responses from the executive group. The average percentage of 'Don't Know' responses for these questions was 40 per cent, or about three out of seven.

Table 1 lists the questions where there were substantial discrepancies. Perhaps the most notable result from this table is the last line, which indicates a much greater commitment to improvement from staff than was expected by the executive group.

Scores from supervisory and non-supervisory questionnaires

Figure 4 displays the average of the non-supervisory and supervisory scores for each S-P Model component. There are no components for 'Reduced waste', 'Less variation', 'Supplier partnerships' or 'Planning', since these issues were not addressed in the questionnaires used at these levels.

Table 1: Discrepancies between executive group perceptions and supervisory/non-supervisory questionnaire results

	Executive estimate (%)	Questionnaire result (%)
<i>Supervisory staff</i>		
Understanding of internal customer concept	54	77
Discuss quality with a customer	38	67
Trained in data check sheets	28	48
Use process control charts	0	22
<i>Non-supervisory staff</i>		
Understanding of internal customer concept	33	60
Make suggestions for process improvement	8	60

Figure 4 shows that:

1. The lowest scoring areas are 'Use of data', 'Quality improvement skills' and 'Understanding of processes'
2. Despite the low score for 'Understanding of processes', the 'Ability to improve' was scored well overall. However, the 'Ability to improve' has not been translated into actual improvements that increased the level of 'Quality' delivered to customers.

Examination of the individual questions that contributed to the low-scoring components indicated that the low scores in 'Use of data' and 'Quality improvement skills' reflected a lack of use of the techniques of data analysis and quality improvement. The low score for 'Understanding of processes' resulted from a lack of documentation and study of processes, although staff generally agreed that they had the information required to do a good job.

It is common in service organisations to find a relatively high score for 'Knowledge of customer needs' and for 'Ability to improve', since the high level of customer contact places an emphasis on the individual service encounter.

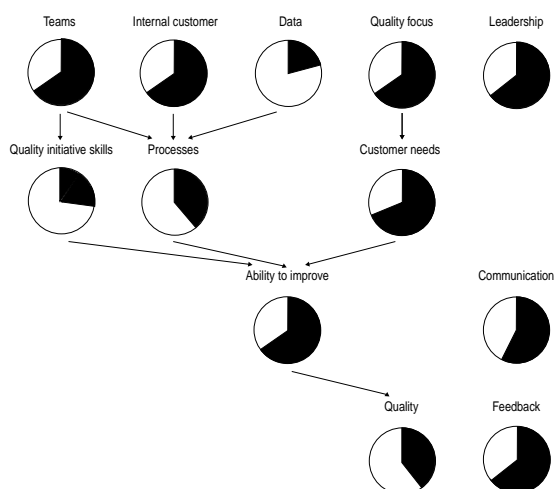


Figure 4: Mean scores for components of the S-P Model by non-supervisory and supervisory staff

Comparison of non-supervisory and supervisory responses

Figure 5 compares the responses for non-supervisory and supervisory staff. The differences in scores between supervisory and non-supervisory staff were tested for significance using a standard analysis of variance. The differences were significant at the 1 per cent level for four S-P Model components, as shown in Table 2.

For each of these components, the score of non-supervisory staff was lower than that of supervisory staff indicating that:

1. The use of data and knowledge of quality improvement skills is restricted to supervisory staff
2. The understanding of the importance of quality is stronger among supervisory staff
3. The level of understanding of the hospital's processes is less than supervisory staff believe.

Table 2: Mean scores for non-supervisory and supervisory staff

S-P Model component	Non-supervisory	Supervisory
Use of data	0.5	1.3
Common focus on quality	2.2	2.9
Quality improvement skills	0.6	1.5
Understanding of processes	1.1	1.6

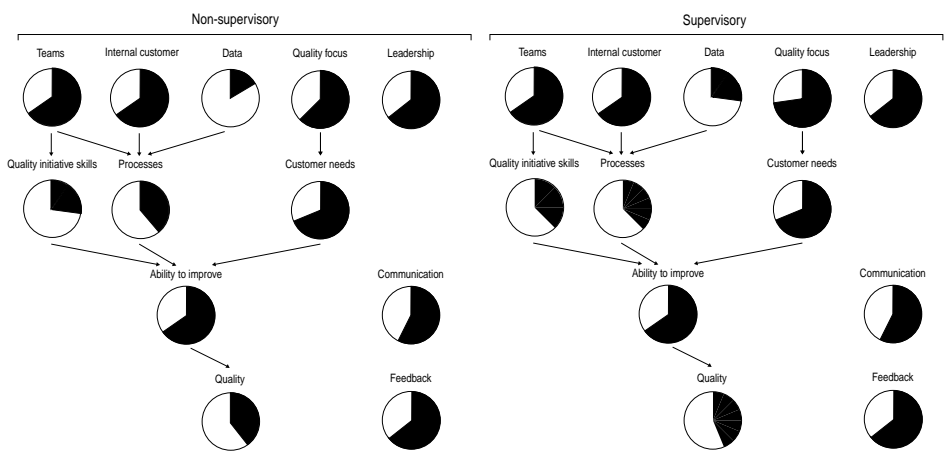


Figure 5: Assessment of S-P Model categories by non-supervisory and supervisory staff

The relatively high scores assigned to ‘Ability to improve’ indicate that both supervisors and staff see that there are opportunities for improvements to be introduced. However, this perception is at odds with the perception that there are limited improvements in the quality of service provided, where the average scores were only 1.4 for non-supervisory staff and 1.8 for supervisory staff.

Comparisons between functional areas

There were some significant differences between functional groups. These can be seen in Table 3, which lists the mean scores for the five components where the differences between functional groups were significant at the 1 per cent level. It can be seen from Table 3 that the major difference between functional groups is that the mean score for nursing staff is higher than the others.

Table 3: Mean scores for S-P Model components by functional group

S-P Model component	Functional group				
	Administration	Medical	Nursing	Operational	Professional
Use of data	0.6	0.6	1.4	0.3	1.0
Common focus on quality	2.3	2.4	3.2	2.2	2.8
Quality improvement skills	0.6	0.5	1.7	0.6	1.4
Ability to improve	2.5	2.9	3.3	2.3	2.6
Better quality	1.4	1.1	2.3	1.6	1.1

The patterns of differences in scores for each S-P Model component within each functional area were consistent between non-supervisory and supervisory staff. In statistical terms, none of the interactions between functional group and supervisory level were significant at the 5 per cent level.

Overall, the most important gap in the quality program at The Prince Charles Hospital highlighted by the analysis is the limited understanding of processes indicated in Figures 3 and 4.

Given the need to understand an organisation's processes as a precursor to improvement, it is surprising to find that all groups scored the hospital relatively high in its 'Ability to improve'. However, this ability would appear to be based on ad hoc activity and not to be clearly leading to actual quality improvements, since the rating of 'Better quality' was low.

Leadership and quality

An aim of this research was to collect data which related leadership to performance in implementing TQM.

An overall conclusion regarding the lack of emphasis on transactional leadership has already been noted in the earlier report (Preston et al. 1995). Thus, while the leaders were rated well on the MLQ factor of 'intellectual stimulation', this had not led to a broad emphasis on using data in decision-making and quality improvement.

This conclusion parallels the consistent finding from the quality study: the ability to improve had not been translated into systems to achieve the improvement. Transactional leadership activities would include the routine activities of data collection and process documentation. 'Analytical ability', which includes the appropriate use of data, was the aspect of leadership least emphasised by the executive group.

At a more detailed level, the links of leadership style to quality outcomes were not clear. In particular, there was found to be no statistically significant relationship between the self- or other-ratings of individual leaders on the MLQ categories and the level of quality activity in their area of responsibility. The ratings of leadership within the hospital did not differ significantly between functions or between supervisory and non-supervisory staff.

There is insufficient data from this study to draw firm conclusions. However, on the basis of the weak linkage between leadership and sub-unit performance in terms of quality implementation, there is a need to further explore this relationship. It is commonly accepted that leadership is a crucial factor in quality

implementation success or, for that matter, any successful organisational change. Bass (1985) also linked transformational leadership behaviour to 'extra performance'. It may be that the role of leaders is less easily identifiable and dependent on a range of circumstantial factors such as their direct influence on policy and operational matters. In this case, a large public hospital, managers were subject to strong, changing policy agendas emanating from a central health bureaucracy driven to some extent by political agendas, while at the same time being somewhat remote hierarchically and intellectually from the disciplinary or functional aspects of day-to-day practice in the hospital.

In a study of some 25 sites, Badrick, Saunders and Preston (1996) also report a lack of chief executive officer influence on the rate of implementing TQM in hospitals. Influences indicated from their data suggest various factors including organisational size and complexity, private or public ownership, profit versus non-profit, and teaching versus regional or specialist and implementation strategy. They postulate that implementation and the effectiveness of the leader in achieving implementation in the short to medium term is likely to be linked to the degree of direct power the leader has to implement change. For example, in small private hospitals the structure is generally flat and the direct influence of the chief executive officer high in terms of policy and practice.

The lack of a clear cut result may alternatively be taken as casting some doubt on the value of the MLQ in predicting quality outcomes. This is in contrast to the results of Bass (1985), who found a link between the MLQ transformational factors and the performance of subordinates. However, it should be noted that the different functional areas of a hospital can have very different traditions and ways of working and it may be that these override the impact of the leader. This has important implications for the role of leaders in implementing TQM, indicating that they perhaps have less individual impact than is commonly claimed and are constrained by the history of the organisation and their location within it.

Badrick, Saunders and Preston (1996) also report a lack of chief executive officer influence on organisational success in implementing TQM in large public hospitals. They also postulate that the power gradient between the chief executive officer and the delivery interface is critical to implementation success.

If this conclusion can be substantiated more broadly, it has significant implications for the management of hospitals.

- It emphasises the need for varied leadership approaches in different areas, depending on the background and experience of the staff.
- It may indicate a high level of difficulty of achieving major change in a complex cultural environment.

There is insufficient data here to support any firm conclusion, but it is an area that needs further research. It certainly highlights the need for a closer examination of the link between quality management and leadership attributes as measured by the MLQ. Also needing study is the role and influence of leadership at other levels of the organisation.

Establishing the results more fully will require similar studies in other organisations. The use of leadership assessment tools such as the MLQ should be validated by such studies before they are used to plan leadership development.

The measures obtained here are inevitably a snapshot in time and the responses reflect a variety of influences other than the leadership of the executive, individually or as a group. Nevertheless, the approach has the potential to form the basis of ongoing evaluation in the hospital's progress towards implementing TQM. In addition, this approach could be extended to include leadership assessment across other staff levels. Interpretation would also benefit if a comparative database of leadership and TQM performance were available from other hospitals, appropriately structured to reflect the organisational structure and approach to quality management.

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