

# Total quality management practices in the NSW hospital system – an overview

PHILIP ROSS, MIKE CLEAR, KATHY DIXON, MARK BARTLETT, AMANDA JOHNSON, BRETT WHELDON AND DEBORAH HATCHER

Philip Ross and Brett Wheldon are Lecturers in the Faculty of Management at the University of Western Sydney–Hawkesbury. Mike Clear, Kathy Dixon, Mark Bartlett, Amanda Johnson and Deborah Hatcher are Lecturers in the Faculty of Health, Humanities and Social Ecology at the University of Western Sydney–Hawkesbury.

## ABSTRACT

*A two-phase descriptive study involving a questionnaire survey was undertaken during 1994 and 1995 to evaluate the extent of implementation of total quality management practices in New South Wales hospitals accredited by the Australian Council on Healthcare Standards.*

*A survey response rate of 72 per cent was attained. Results indicated that most hospitals were aware of and consciously implemented aspects of the total quality management philosophy in some way. There is little evidence that whole systems have embraced the total quality management approach as a fully integrated endeavour.*

## Introduction

Total quality management (TQM), or continuous quality improvement as it is sometimes referred to, is generally understood to involve a focus on flexible, consultative management with the needs of ‘the customer’ or service recipient seen as central to guiding a continual process of improvement. Flood (1993) is of the view that TQM is best defined in terms of its three components. In this regard, he defines ‘quality’ as meaning ‘meeting customers’ (agreed) requirements, formal and informal, at lowest cost, first time every time’ (p 42); ‘total quality’ as meaning ‘that everyone

should be involved in quality, at all levels and across all functions' (p 47); and by integrating the term 'management', the 'value of management responsibility is projected into the meaning of quality' (p 47). Improvement is manifested in better service, resulting from changes to processes and systems in the organisation, rather than from a simple performance focus on individuals within it. Further, team processes and a sound database for decision-making about costs and service delivery are fundamental to this approach to management (Flood 1993).

The concept of TQM was developed in the United States in the 1930s and implemented with great success in post-war Japan (Demming 1982). Indeed, many authors consider the adoption of this management philosophy to have significantly contributed to the success of Japanese business since the early 1950s. Whilst the management methods outlined by Demming were first applied to the manufacturing sector, there has been increasing interest in their application to the human services sector and over the past few years the health care system in Australia has begun to implement models of TQM (Thornber 1992; Reeve 1993). The adoption of TQM in health care has been motivated by two major factors: firstly, a diminishing resource base and increasing costs of providing health care; and, secondly, the need to respond to better informed consumers who expect and demand more information and involvement in the services they receive (Bates & Linder-Pelz 1990; Thornber 1992; National Health Strategy 1992, 1993; New South Wales Health Department 1994a, 1994b).

The Australian Council on Healthcare Standards was established 17 years ago with the principles of quality management as the driving motivation (Ruscoe 1990). In the past the council has not probed the quality component of a hospital's activities to a great depth. This, however, is changing and an institution's quality effort is to have far greater impact on the accreditation procedures (Reeve 1993, p 43).

The move towards a more systematic view of quality through TQM principles has emerged as a transition from the original quality assurance accreditation procedures, which are now seen as part of TQM rather than as completely separate from it. Lopresti and Whetstone (1993, p 34) state that 'the new movement only eliminates from healthcare jargon the term "quality assurance". The process itself will remain to form a symbiotic relationship with TQM.'

The National Health Strategy project made community participation a significant focus of its recommendations (National Health Strategy 1993). The strategy described two levels of community participation: firstly, that

participation associated with individual decision-making that recognises the ways individual consumers can contribute to their own health care; and, secondly (and most importantly in this context), participation by whole communities and community groups. Thornber (1992) describes the issue of community participation in decision-making in health care services from three perspectives:

1. staff involvement in system improvement at all levels of organisation (internal)
2. the community of individuals who have partnerships with the hospital because they provide goods or services on a contract basis from outside the organisation (external), and
3. the patients and clients (the customers) of the hospital, whose interest is in both technical and interpersonal aspects of the service.

The cooperative involvement of all participants in the service system is seen as a major outcome and indicator of quality in TQM (Demming 1982) and an important part of the policy of the National Health Strategy (1993).

Suver, Neumann and Boles (1992) point out that changes in behavioural focus and organisation climate brought about by TQM will have a major impact on the management accounting function in health care organisations. They add that TQM will require new methods of accounting that will enable the effects of declining quality to be recognised and evaluated. Horngren, Foster and Datar (1994, p 795) define the costs of quality as 'those costs incurred to prevent poor quality from occurring or those costs incurred because poor quality has occurred'. Suver, Neumann and Boles further note that in many organisations the costs of quality are not reported in financial statements because the information is not readily available in the accounting systems. This weakness in financial reporting has made it difficult to sustain the interest of some top managers in the importance of continuing to reduce the overall costs of quality.

Further criticisms of the ability of hospital accounting systems to provide information for informed decisions come from Broadhead (1991). He notes that the ethics in the allocation of resources in health is an emerging issue. Recent publications of the National Health and Medical Research Council and the New South Wales Department of Health support this opinion. He points out that at the moment the information required is not readily available. Further, he observes that clinicians make

their decisions in the almost complete absence of good information about costs, or any accountability for costs.

As described at the outset, a significant aspect of the TQM approach is a focus on systems rather than individual performance as a means to reduce error and improve the effectiveness, and also to reduce the cost of delivering a service (Lopresti & Whetstone 1993). Given that a systems approach is such a fundamental part of TQM, gaining an understanding of what systems currently utilise to monitor and measure quality should not only be seen as one key indicator of how hospitals are dealing with TQM, but also serve as a benchmark for future developments and recommendations.

## **Aims of the study**

The aims of this study were to describe and evaluate the extent to which systems of TQM have been implemented in New South Wales hospitals accredited by the Australian Council on Healthcare Standards. More specifically, the study was undertaken to describe and evaluate:

1. the development of systems for monitoring and measuring quality performance of the organisation
2. the involvement of members of the community and personnel from all levels of the organisation and community in decision-making about quality inputs, processes and outcomes, and
3. the extent to which costs of quality accounting reports are prepared and used.

Given the essential and current motivations of the drive for quality, it seems very timely that some attempt was made to evaluate the extent of implementation of these aspects of TQM.

## **Research method**

The primary research method was a self-reported questionnaire survey designed to gain demographic data on each hospital and data concerning the key aspects of TQM identified in the aims of this study. The questionnaire was developed following site visits to organisations which indicated a willingness to explore the issue of quality improvement further in a case-study approach. To this extent the survey was qualitatively derived

from a semi-structured interview format and the researchers saw involvement with these hospitals as a way of informing the research process in an ongoing way. Five hospitals in Sydney's west and north-west participated in this case-study approach and a pilot of the questionnaire.

The organisations selected for the final survey were all hospitals (excluding nursing homes and specialist clinics) which had been accredited by the Australian Council on Healthcare Standards in New South Wales as at December 1994. One hundred and fifty-five hospitals (86 public and 69 private) were selected.

In December 1994 questionnaires were posted to the chief executive officer of each hospital; in February 1995 reminder letters were sent to those hospitals which had not replied by the due date of January 31. At the end of February 1995, the cut-off date, 72 per cent ( $n = 112$ ) of hospitals had responded: 52 per cent ( $n = 58$ ) of responses were from public hospitals and 47 per cent ( $n = 54$ ) from private hospitals. This represents a response rate of 67 per cent for public hospitals and 77 per cent for private hospitals.

Analysis of data took two forms: qualitative and quantitative. Qualitative data derived from semi-structured interviews with key management personnel in each of the five case-study hospitals were analysed using a basic content analysis. Qualitative data recorded at the interviews were fully transcribed and examined for significant themes and ideas by each member of the research team. The themes and ideas of individuals were then brought to a group meeting and tested, and to this extent validated by the team. This basic content analysis suggested areas for questioning, or further questioning, and helped to define the scope of the final survey instrument. It also assisted the research team to appreciate the historical links between earlier and continuing efforts in quality assurance by hospitals and the transition to TQM. For quantitative purposes a database was established using SPSS PC + (Version 2) for the basic descriptive analysis of questionnaire data.

## **Results**

### **Introduction**

Of the 112 responses to the questionnaire, 76 per cent ( $n = 85$ ) indicated that they had a strategic plan. Private hospitals are approximately 5 per cent more likely to have a strategic plan than public hospitals.

Of the 85 hospitals indicating that they had a strategic plan, 96 per cent ( $n = 82$ ) reported that the plan addressed quality.

The 82 hospitals whose strategic plan addressed 'quality' noted a variety of ways in which their plan incorporated this concept. Seventy-nine per cent ( $n = 65$ ) indicated that quality was addressed by way of a broad statement of intent. Seventy-seven per cent ( $n = 63$ ) indicated that quality was addressed by specific goals, and 67 per cent ( $n = 55$ ) by specific targets. Twelve per cent ( $n = 10$ ) of hospitals indicated that quality was addressed in the strategic plan through measures such as establishing quality strategies for each business unit, making quality inherent in the business plan, developing specific plans for service areas and individuals, and setting a timetable of achievement.

Of the 112 responses, 77 per cent ( $n = 86$ ) indicated that they had indeed implemented TQM practices. Of those implementing TQM practices, 50 per cent ( $n = 43$ ) described their hospital's implementation as an adjunct to management practices. Forty-two per cent ( $n = 36$ ) described their implementation as a full, integrated approach to management.

Of the 86 hospitals implementing TQM practices, most appeared to have implemented these systems and practices in 1993 and 1994 (59 per cent,  $n = 51$ ).

## **TQM systems**

The hospitals which had implemented TQM practices were asked to indicate the methods by which they measured 'quality'. Quality was most frequently measured by surveying staff (88 per cent,  $n = 76$ ), surveying patients (100 per cent,  $n = 86$ ), monitoring customer complaints (95 per cent,  $n = 82$ ) or by meeting predetermined standards (91 per cent,  $n = 78$ ). Only 36 per cent ( $n = 31$ ) of respondents consulted customer representatives. Data collected on quality were primarily used for improvement of service, systems or performance. Sixty-six per cent ( $n = 57$ ) of hospitals compared their quality performance with other hospitals. Almost all of the hospitals that had implemented TQM practices (97 per cent,  $n = 83$ ) communicated their policies in relation to TQM throughout the hospital. Eighty per cent ( $n = 69$ ) of those hospital staff groups responsible for the overall implementation reported on TQM monthly. Hospital management, nursing and hotel staff both implemented and reported TQM practices *most* frequently. Medical officers implemented

and reported TQM practices *least* frequently.

The surveyed hospitals were asked to identify barriers to implementing TQM. Of the 112 respondents, 59 per cent (n = 66) reported the existence of barriers. The most common barriers reported by the respondents to this question included:

1. lack of support from key groups      55 per cent (n = 36)
2. appropriate strategies not developed   48 per cent (n = 32)
3. too expensive      23 per cent (n = 15)
4. other      33 per cent (n = 22)

(Respondents could indicate the existence of more than one barrier).

Medical staff (including visiting medical officers) made up the group that was most frequently reported as representing a barrier to implementing TQM.

Sixty per cent (n = 67) of the 112 respondents considered that the information required to extend the use of TQM practices in the hospital was readily available.

In those hospitals that had implemented TQM practices, 36 per cent (n = 31) had a budget for quality training. Of these 31 hospitals, 81 per cent (n = 25) allocated up to 2 per cent of their total budget for quality training.

Seventy-one per cent (n = 61) of hospitals which had implemented TQM practices had a quality training program. Of these, 48 per cent (n = 29) included *quality* training as part of other training programs, while 44 per cent (n = 27) had a separate quality training program.

In those hospitals that had implemented TQM practices and conducted quality training programs, 7 per cent (n = 4) used external consultants, 59 per cent (n = 36) used internal staff and 31 per cent (n = 19) used a combination of internal and external consultants to conduct the program.

## **Staff and community involvement**

Hospitals implementing TQM were asked to rank the extent to which certain staff groups had implemented TQM practices. The ranking was graded in five steps on a Likert scale from 'Not at all' to 'Very substantial'. The following groups were indicated as having implemented TQM 'Substantially' or 'Very substantially'.

Senior management	66 per cent (n = 57)
Middle management	53 per cent (n = 46)
Nurses	41 per cent (n = 35)
Administration staff	40 per cent (n = 34)
Hotel staff	40 per cent (n = 34)
Allied health staff	34 per cent (n = 29)
Medical officers	12 per cent (n = 10)

Senior management was very regularly or often involved (98 per cent, n = 84) in decision-making and planning associated with TQM. Middle management was the next most involved in decision-making and planning, but in 20 per cent (n = 17) of hospitals they had little involvement.

Fifty-seven per cent (n = 49) included service partners in some way in hospital policy or planning.

Inpatients were the most consulted group (49 per cent, n = 42), but 71 per cent (n = 61) of outpatients and allied health staff were consulted 'little' or 'not at all' about planning.

Inpatients were the most represented group in the planning process, although this was only 21 per cent (n = 18). Most groups were represented 'little' or 'not at all'.

Most of the responding hospitals surveyed did not conduct surveys of population groups. Of those that did survey groups (40 per cent, n = 34), 50 per cent (n = 18) said they conducted some form of patient survey.

Only a small number of those surveyed indicated how the data were used to inform policy and service provision (17 per cent, n = 6). These included media releases and committee meetings. Meetings were the most frequently identified form. Eighty-two per cent (n = 28) reported to administration for planning purposes. Approximately 76 per cent (n = 26) reported to individual units.

Most hospitals did not use information gained at all in any specific way, but a small group did use the information to inform planning and practice.

Of those who conducted surveys (n = 34), between 70 and 80 per cent used information to inform planning and/or practice.

Sixty-two per cent (n = 53) of respondents indicated that they consulted with specific interest groups in the local community about policy and service provision. Of these:

- 53 per cent (n = 28) said they were approached by interest groups
- 64 per cent (n = 34) said they formally approached interest groups



- 53 per cent (n = 28) said they went to interest groups specifically with information
- 66 per cent (n = 35) said they had informal contact with interest groups.

(Respondents could indicate more than one method)

## **Costs of quality**

Fifteen per cent (n = 13) of hospitals that had implemented TQM practices indicated that they measured the costs of quality. Of these, 23 per cent (n = 3) were public hospitals and 77 per cent (n = 10) were private hospitals. In all cases where quality costs were measured, the costs were estimated and not based on actual data.

The reasons given by those hospitals that did not measure the costs of quality were:

- problem with creating parallel register 34 per cent (n = 25)
- not aware of concept of cost of quality 33 per cent (n = 24)
- complexity of service delivery 26 per cent (n = 19)
- lack of support for collection costs 26 per cent (n = 19)
- other 18 per cent (n = 13).

(Respondent could indicate more than one reason)

## **Discussion**

By and large, hospitals in New South Wales have only implemented TQM principles since 1993. It is perhaps not surprising to find that there has been a fragmented approach to date. Hospital management has generally commenced implementing TQM through personnel specifically designated as responsible for the area, and their early efforts have focused on the development of patient/customer surveys and surveys of staff.

Hospital management, nursing and hotel staff appear to be taking most responsibility for both implementing and reporting on TQM. Medical officers have little involvement and were even identified as a 'barrier' to implementing quality practices.

Seventy-one per cent of hospitals implementing TQM practices were participating in some kind of staff training program about quality. This perhaps offers some cause for optimism that more staff will understand and

participate in quality initiatives. That 29 per cent do not have such training programs may be a genuine source of concern for those advocates of the TQM philosophy.

Few hospitals have attempted to develop models for, or measure in any way, the cost of quality initiatives. In explaining this it appears that whilst 33 per cent were simply not aware of the cost of quality concept, most others indicated the complexity of the task was the major problem.

Responses to a range of questions about decision-making highlight clearly the restricted nature of implementation of TQM at this stage. It certainly highlights a patient/customer focus, but this tends to be limited to inpatient surveys; there is little evidence of a broader involvement of community or clearly developed structures or processes for using information to inform and improve practices.

A limitation of the study may have been the absence of the title of the person or persons who completed the survey. This may have highlighted the biases of the respondent, without the researchers being able to explain or properly identify these. A further limitation was the bias that may have been introduced due to the higher response rate from private hospitals.

## **Concluding remarks**

TQM must be viewed as a broad-based approach and, to be properly implemented, requires the fullest cooperation of all significant stakeholders in a fully integrated approach to management. The study showed above all else a rather fragmented and ad hoc approach to TQM implementation and few examples, if any, of a fully integrated approach to the operations of hospitals. Whilst not directly relevant to the current study, it would seem that recent and forthcoming developments of diagnosis related groups and casemix funding may be illustrations of government efforts to meet the perceived problems of health care and hospital management, particularly those associated with cost and accountability, at the expense of a comprehensive systems approach, such as that offered by TQM. It is hoped that hospitals will not be distracted from efforts to define and implement the TQM philosophy.

The second issue highlighted by the study, and relevant to any future efforts to implement TQM successfully, was the apparent lack of involvement of medical officers. This was apparent both in the survey results themselves and in the case-study phase of the research. In each of the case-study hospitals, the research team met with between two and six

members of staff identified as key participants in the TQM process. Unfortunately *no* doctors were involved. In addition, it was clear from the interviewees that medical officers were viewed as being 'outside' the TQM process; often either indifferent to its implementation or actively cynical of such management ploys.

It is clear that, given the significant influence and power of medical officers in the overall operation of the hospital system, if TQM is to be successfully implemented, ways would have to be found to secure the support of the medical profession. There is evidence that historically medical officers have had little interest in these broader management issues; this may present one of the more significant challenges for TQM implementation (Lopresti & Whetstone 1993).

In summary, this study provided a picture of a very patchy application of the philosophy and principles of TQM in the New South Wales hospital system. There do appear to be some efforts to build quality practices as an integral part of all practice, but these were a minority. The development of a model for accounting for the cost of quality in hospitals, improved processes and systems for participation of employees (particularly medical staff) and customers in planning and decision-making, and improved systems for monitoring and measuring quality are all viewed as possible outcomes for future research and development work, based on the study. Clearly, the study provides some evidence that such research and development work is needed.

## **Acknowledgements**

The authors express their appreciation to the Australian Research Council which provided funding for this project under their Small Grants Scheme. The helpful comments of two anonymous reviewers are also appreciated.

## **References**

- Bates EM & Linder-Pelz S 1990, *Health care issues*, 2nd edn, Allen & Unwin, North Sydney.
- Broadhead P 1991, 'Approaches to public funding of Australia's health care', *Australian Health Review*, vol 14, no 3, pp 223–34.

- Demming WE 1982, 'Why productivity increases with improvement of quality', *Quality, productivity and competitive position*, Massachusetts Institute of Technology, Center for Advanced Engineering Study, Cambridge.
- Flood RL 1993, *Beyond TQM*, John Wiley & Sons, England.
- Hornigren CT, Foster G & Datar SM 1994, *Cost accounting: A managerial emphasis*, Prentice-Hall, New Jersey.
- Lopresti J & Whetstone WR 1993, 'Total quality management: Doing things right', *Nursing Management*, vol 24, no 1, pp 34–6.
- National Health Strategy 1992, *Health participation: Achieving greater public participation and accountability in the Australian health care system*.
- National Health Strategy 1993, *Health that works: Workplace reform and best practice in the Australian health industry*.
- New South Wales Health Department 1994a, *NSW Health Budget, 1994–1995*, State Health Publication No (PA) 94-104.
- New South Wales Health Department 1994b, *A healthy future: A framework for health in NSW*, Discussion Paper, June, State Health Publications No (CPB) 94-079.
- Reeve T 1993, 'Current and consistent QA and utilisation review activities in public and private hospitals in Australia', Report prepared for the Commonwealth Department of Health, Housing, Local Government and Community Services.
- Ruscoe WJ 1990, 'Quality and healthcare – Future directions for healthcare quality management', Keynote address to The Implementation of Quality Improvement Programs Conference, Australian Council on Healthcare Standards, Sydney.
- Suver JD, Neumann BR & Boles KE 1992, 'Accounting for the costs of quality', *Healthcare Financial Management*, September, pp 29–37.
- Thornber M 1992, 'A model of continuous quality improvement for health service organisations', *Australian Health Review*, vol 15, no 1, pp 56–9.