

Total quality management in accredited New South Wales hospitals: A public/private comparison

MARK BARTLETT, DEBORAH HATCHER, AMANDA JOHNSON
AND KATHY DIXON

Mark Bartlett, Deborah Hatcher, Amanda Johnson and Kathy Dixon are Lecturers in the Faculty of Health, Humanities and Social Ecology at the University of Western Sydney-Hawkesbury.

Abstract

Analysis of data collected in a 1994–95 survey of accredited New South Wales hospitals examined the adoption of key elements of total quality management practice in the public and private sectors. In a number of areas of practice widely considered to be central to a hospital's total quality management efforts, there was no statistically significant difference between the two sectors. Where differences existed, total quality management practices more likely to be adopted by public hospitals were limited in their scope and likely to be explained by structural peculiarities. In contrast, private hospitals were more likely to adopt practices more critical to the successful implementation of total quality management.

Introduction

The imperative to improve quality whilst at the same time reducing costs has forced public and private sector hospitals to re-evaluate their quality programs and manner of operation (Ernst 1994). The re-evaluation has turned the attention of many health care organisations to industrial quality practices, in particular, to total quality management (Arndt & Bigelow 1995).

For various reasons, different organisations and authors allocate a variety of terms to the quality improvement philosophy and strategy outlined in this paper.

Synonymous terms currently in use include 'continuous quality improvement', 'total quality management' and 'quality management' (Hughes 1992; Thornber 1992). For the purpose of clarity, the single term 'total quality management' (TQM) will be used throughout this paper.

Central to the practice of TQM is a focus on flexible, consultative management with the needs of the customer (considered to be employees, service partners and the end-user or service recipient) seen as essential to guiding a continual process of improvement (Ross et al. 1996). TQM is a whole-system concept, which recognises the need to manage sets of interacting technical, cultural and political issues (Flood 1993) and relies heavily on planning and measurement to inform policy and practice.

Butz (1995) notes that in the manufacturing and service industries, TQM has been the most widely adopted management strategy. This observation is similarly true for the United States health system. A number of studies of United States hospitals have indicated that approximately 70 per cent have developed and implemented a TQM program, most having done so since 1989 (Barsness et al. 1993; Deitch et al. 1994). By contrast, the Australian health care system has been slow to embrace TQM philosophy and practice, with the most tardy organisations being public sector hospitals (Eastman 1992).

White (1994), in a comparison of public and private sector agencies (not limited to health care agencies), notes a number of significant differences between the sectors. First, the primary function of the private sector is to return a profit, whereas the government sector has a number of sometimes conflicting roles, attempting to balance financial efficiency with social responsibility. Second, government agencies tend to have their customers defined for them, whilst private sector customers are limited to those who can pay for the service on offer. Third, due to the bureaucratic nature of government agencies, change is effected far more slowly than in the private sector. Lastly, the public sector has a number of complex social responsibilities, including empowering communities to address identified problems. The private sector is far less accountable in this area.

White, however, cites Cuttance (1993) as suggesting that the private sector should not necessarily be exempt from involvement with and accountability to 'the community'. Similarly, contemporary concepts of quality frequently include the societal impact of service provision and business activity (Costin 1994), the implication being that the effects of service provision on the community should be investigated and evaluated. Investigation and evaluation by necessity require that, at the very least, communication is entered into with 'the community'.

Aim

The aim of this secondary analysis was to compare public and private sector hospitals on their adoption of key elements of the TQM philosophy and TQM practice.

Method

In December 1994 a self-administered questionnaire was mailed to the chief executive officer of each of the 155 New South Wales hospitals accredited with the Australian Council on Healthcare Standards as at June 1994. Nursing homes and day procedure centres were excluded from the definition of 'hospital'. The aim of the primary study, by Ross et al. (1996), was to describe and evaluate the implementation of TQM systems in accredited New South Wales hospitals. A response rate of 72 per cent ($n = 112$) was attained. Sixty-seven per cent ($n = 58$) of accredited New South Wales public hospitals and 77 per cent ($n = 53$) of accredited New South Wales private hospitals responded. The details of the development of the survey are described elsewhere (Ross et al. 1996).

Seventy-seven per cent ($n = 86$) of the responding hospitals reported that they had implemented TQM practices. Public and private hospitals were equally represented in this group, with 74 per cent ($n = 43$) of public hospital respondents and 81 per cent ($n = 43$) of private hospital respondents indicating that they had implemented TQM practices (Ross et al. 1996, p 45). The secondary analysis described in this paper considers only data from these 86 hospitals.

The survey developed by Ross et al. (1996) had a number of questions which required responses on a 1 to 5 Likert scale. For the purpose of this secondary analysis, Likert responses of 1 and 2 (that is, 'not at all' and 'marginal/only occasionally') were considered equivalent to a 'no' answer and recoded appropriately. Likert responses of 3, 4 and 5 (that is, 'moderate/from time to time as needed', 'substantial/often' and 'very substantially/very regularly') were considered equivalent to a 'yes' answer and also recoded.

Chi-squared tests were performed on a number of TQM practices to identify areas of difference between public and private hospitals. Where the chi-squared statistic had expected counts of less than five in more than 20 per cent of cells, a Fisher's exact test was calculated to determine significance. All analysis was performed using the SAS System for Windows, Release 6.11 (SAS Institute Inc.). Odds ratios and confidence intervals were calculated for the statistically significant associations.

Results

As noted, the primary study indicated that 74 per cent of public hospital respondents and 81 per cent of private hospital respondents reported that they had adopted TQM practices. The difference in these proportions is not significant ($X^2_{(1)} = 0.78$, $p = 0.38$).

Table 1 shows the TQM practices investigated for their association with hospital class (public/private).

Table 2 shows those TQM practices for which there were statistically significant differences between public and private sector hospitals. For the remaining practices, the difference in proportions were not statistically significant.

Those TQM practices for which public hospitals report greater proportions of positive responses include:

- the implementation of TQM practices by allied health staff
- the presence of a quality training program that is offered to allied health staff
- the consultation of local community interest groups to inform policy and service provision.

Allied health staff within public hospitals are 2.70 times more likely to have implemented TQM practices than are allied health staff within private hospitals. Similarly, public hospitals are 5.19 times more likely than private hospitals to offer a quality training program to allied health staff and 5.33 times more likely to consult local community groups to inform policy and service provision (Table 2).

Those TQM practices for which private hospitals report significantly greater proportions of positive responses include:

- the presence within the hospital of a quality training program
- the existence of a budget for quality training
- the implementation of TQM practices in a fully integrated manner
- the measurement of quality costs
- two variables related to administrative staff implementation of TQM practices and involvement in the hospital's decision-making processes.

The odds ratios for these variables range from 0.13 to 0.39. The implementation of the TQM philosophy by private hospitals is 2.86 (1/0.35) times more likely to be fully integrated within, rather than an adjunct to, management practices. Private hospitals are 4 (1/0.25) times more likely than public hospitals to have a quality training program and 2.56 (1/0.39) times more likely to have a budget

Table 1: TQM practices investigated for their association with hospital class (public/private)

The hospital has a strategic plan.	The strategic plan addresses quality.
The strategic plan addresses quality through broad statements.	The strategic plan addresses quality through goals and targets.
TQM practices adopted pre/post 1991.	TQM policies communicated internally.
The hospital reports its quality activities externally.	The hospital measures quality performance by patient survey, staff survey, meeting predetermined standards, customer consultation, monitoring customer complaints.
TQM practices have been implemented by senior management, middle management, nurses, medical officers, allied health staff, administrative staff, hotel.	The hospital makes use of the collected data.
The hospital compares its quality performance with other hospitals.	The hospital has a quality training program.
The quality training program is offered to senior management, middle management, medical officers, nurses, allied health staff, administrative staff, hotel.	The hospital has a budget for quality training.
Internal barriers to TQM implementation exist.	The quality training program is offered at induction only, on an occasional basis, on an ongoing basis.
Quality costs are measured.	TQM is implemented as an adjunct to management practices or is fully integrated.
The following customer groups are represented in the hospital's decision making processes: inpatients, outpatients, clients of allied health staff.	The following staff groups are involved in decision-making processes: senior management, middle management, medical officers, nurses, allied health staff, administrative staff, hotel.
Service partners are involved in decision-making processes.	The following customer groups are consulted when decisions are made about hospital practices: inpatients, outpatients, clients of allied health staff.
TQM consultants have been employed.	The hospital consults community groups about policy and service provision.
The hospital surveys population groups to inform policy and service provision.	

Table 2: Comparison of TQM practices in public and private hospitals

TQM practice	% public* hospitals positive response	% private* hospitals positive response	odds ratio**	95% CI	Chi-sq (1 df)	p
Allied health implements TQM practices	79	58	2.70	1.03–7.11	4.20	0.04
Admin. staff implements TQM practices	60	64	0.29	0.10–0.80	6.14	0.01
Budget for quality training	25	46	0.39	0.15–1.00	4.01	0.05
Hospital has quality training program	56	84	0.25	0.09–0.67	7.94	0.005
Quality training program for allied health	93	72	5.19	1.04–25.99	4.65	0.03
TQM implementation fully integrated	31	56	0.35	0.14–0.86	5.34	0.02
Quality costs measured	5	28	0.13	0.03–0.66	7.64	0.006
Admin. staff involved in decision-making	67	87	0.30	0.09–0.95	4.37	0.04
Community groups consulted	79	42	5.33	1.94–14.62	11.31	0.001

* Number public hospitals total = 43.

+ Number private hospitals total = 43.

** Public hospitals are the referent group.

for quality training (however, it should be noted that the 95 per cent confidence interval for the variable 'the hospital has a budget for quality training' includes 1, that is, no difference). Similarly, private hospitals are 7.69 (1/0.13) times more likely than public hospitals to measure quality costs. Lastly, the implementation of TQM practices by administrative staff and the involvement of this staff group in the hospital's decision-making processes is 3.45 (1/0.29) and 3.33 (1/0.30) times more likely within private hospitals (Table 2).

Discussion

There are few studies in the literature which explore the application of TQM practices in the Australian health care system, those that do exist suggest that the application is not at all advanced. Moreover, Eastman (1992) notes that the public sector, in particular public sector hospitals, lags somewhat behind the private sector in adopting the TQM ethos.

The primary analysis of data collected in the survey by Ross et al. (1996) supports those suggestions that the adoption of TQM practices by the Australian health system is in its infancy. This secondary analysis, however, found no significant difference between public and private sector hospitals on a range of variables which have been identified as defining characteristics of TQM practice. Examples of these variables include:

- quality and strategic planning
- the implementation of TQM practices by the offering of quality training to, and the involvement in decision-making of, key staff groups (in particular, medical officers)
- benchmarking
- the close involvement of various customer groups (both internal and external) in decision-making processes
- the presence of internal barriers to furthering the implementation of TQM.

However, where public/private differences exist, a number of noteworthy observations can be made. Those TQM practices which private hospitals have adopted to a greater extent than public hospitals may be considered crucial to furthering an organisation's quality progress. That is, practices such as the operation of a quality training program and a supporting budget for quality training, the measurement of quality costs and the implementation of TQM as a fully integrated package are frequently cited as being central to the successful

implementation and development of quality management practices (Berwick, Godfrey & Roessner 1990; Dale & Plunkett 1991; Camp & Tweet 1994; Costin 1994; Butz 1995).

In contrast, those characteristics which public hospitals are more likely to adopt are, for the most part, limited in their scope and somewhat predictable. That is, it is quite likely that few private hospitals have 'internal' or salaried allied health staff; they are more likely to contract these services and therefore may consider this professional group as service partners rather than staff. As a result, the public hospitals would show a higher proportion of positive responses to this item simply based on structural idiosyncrasies.

Similarly, it may be argued that private hospitals are, by nature of their relationship with the local community, less accountable to the community and therefore less likely to consult community groups regarding policy and service provision. Also, identification of 'the community' to which the private sector hospitals might be considered responsible may not be as straightforward as it is for the public sector and therefore may inhibit consultation should it be attempted. Public sector hospitals have a readily identifiable community to which they are responsible and are furthermore required, under the 1986 Area Health Services Act, to consult with existing and potential clients within that community.

There is, however, increasing emphasis being placed on private sector accountability and future changes within the Australian Council on Healthcare Standards may see community consultation attracting some weight in the accreditation process. Similarly, and as previously noted, modern quality concepts frequently include responsibility for the societal impact of service provision and thus require some evaluation of that impact. As all sectors of the health industry begin to embrace contemporary notions of quality, community accountability and therefore consultation should, by necessity, become common practice.

The findings related to community consultation have highlighted what may be a problem with respondents' interpretation of the survey. That is, whilst there exists a significant public/private difference in community consultation, there is no similar difference in the practice of surveying 'population groups'. Thirty-nine per cent of public hospitals and 41 per cent of private hospitals survey these groups ($X^2_{(1)} = 0.03$, $p = 0.86$). Investigation of this anomaly noted that a number of the 'population groups' surveyed by respondents may be more appropriately classified as 'community' or 'customer groups'. The variance in the categorisation of a 'group' may influence the results of analysis by artificially inflating or under-representing the true number of hospitals undertaking the activity in question.

It should be borne in mind that the findings reported in this paper may strictly be generalised only to accredited New South Wales hospitals. The influence of the accreditation process on hospitals' TQM efforts was not investigated and thus the influence of accreditation on public/private differences cannot be commented on. Potentially, the influence of accreditation is a significant factor given the change in the quality focus of the Australian Council on Healthcare Standards over the last few years and the comparatively high proportion of New South Wales private hospitals which are accredited (approximately 98 per cent, as opposed to 53 per cent for New South Wales public hospitals) (Australian Council on Healthcare Standards 1995, p 22).

Similarly, no comment can be made on the 'intensity' or 'coherence' of TQM implementation by hospitals. Further, multivariate, analysis (for example, cluster analysis) is required to inform such a discussion.

Conclusion

There is no significant difference in the proportions of accredited New South Wales public and private hospitals adopting TQM practices. Where TQM practices have been adopted, there is little difference between public and private hospitals in a number of areas of practice considered central to the successful implementation of TQM.

Those characteristics which public hospitals are more likely than private hospitals to have adopted may be considered predictable, given the structure of private hospitals and their relationship with the local community. In contrast, those characteristics which private hospitals are more likely to have adopted might be considered critical to a hospital's TQM endeavours.

Acknowledgements

The authors would like to express appreciation to P Ross, M Clear and B Wheldon for encouraging further analysis on data collected from the 1994–95 survey of accredited New South Wales hospitals. The authors would also like to express appreciation to R Johnson for his editorial and other comments.

References

- Arndt M & Bigelow B 1995, 'The implementation of TQM in hospitals: How good is the fit?', *Health Care Management Review*, vol 20, no 4, pp 7–14.
- Australian Council on Healthcare Standards 1995, *Annual Report 1994–1995*, The Australian Council on Healthcare Standards, Sydney.
- Barsness Z, Shortell S, Gillies R, Hughes E, O'Brien J, Bohr D, Izui C & Kralovec P 1993, 'The quality march: National survey profiles quality improvement activities. Part 1', *Hospitals and Health Networks*, December 5, pp 52–5.
- Berwick D, Godfrey A & Roessner J 1990, *Curing Health Care. New Strategies for Quality Improvement*, a report on the National Demonstration Project for Quality Improvement in Health Care, Jossey-Bass, San Francisco.
- Butz H 1995, 'Strategic planning: The missing link in TQM', *Quality Progress*, May, pp 105–8.
- Camp R & Tweet A 1994, 'Benchmarking applied to health care', *The Joint Commission Journal on Quality Improvement*, May, vol 20, no 5, pp 229–38.
- Costin H (ed) 1994, *Readings in Total Quality Management*, Harcourt Brace, Fort Worth.
- Dale B & Plunkett J 1991, *Quality Costing*, Chapman & Hall, New York.
- Deitch C, Chan W, Sunshine J, Zininger M, Cascade P, & Cochran S 1994, 'Quality assessment & improvement: What radiologists do & think', *American Journal of Roentgenology*, vol 163, pp 1245–54.
- Eastman C 1992, 'Total quality management: The challenge for hospitals in the 1990s', *Medical Journal of Australia*, vol 157, August 17, pp 219–20.
- Ernst D 1994, 'Total quality management in the hospital setting', *Journal Nursing Care Quality*, vol 8, no 2, pp 1–8.
- Flood R 1993, *Beyond TQM*, John Wiley & Sons, Chichester.
- Hughes J 1992, 'Total quality management in a 300-bed community hospital: The quality improvement process translating to health care', *QRB*, September, pp 293–300.

Ross P, Clear M, Dixon K, Bartlett M, Johnson A, Wheldon B & Hatcher D 1996, 'Total quality management practices in the NSW hospital system – an overview', *Australian Health Review*, vol 19, no 1, pp 40–51.

Thornber M 1992, 'A model of continuous quality improvement for health service organisations', *Australian Health Review*, vol 15, no 1, pp 56–64.

White S 1994, 'TQM in the public sector – issues for implementation', *Health Information Management*, vol 24, no 3, pp 115–17.