Influences on the implementation of TQM in health care organisations: professional bureaucracies, ownership and complexity

TONY BADRICK AND ARTHUR PRESTON

Tony Badrick is Laboratory Manager at Sullivan Nicolaides Pathology. Arthur Preston is a Senior Research Fellow at the Australian Centre in Strategic Management at Queensland University of Technology

Abstract

TQM is introduced into many organisations in an attempt to improve productivity and quality. There are a number of organisational variables that have been recognised as influencing the success of TQM implementation including leadership, teamwork, and suppliers. This paper presents findings of a study of the implementation of TQM in Australian health care organisations. Structural factors were observed to affect the progress of TQM. Professional bureaucracies were less successful than machine bureaucracies. Private organisations were more successful than their public counterparts.

Introduction

There are many factors that impact on the potential uptake of improvement processes in health care organisations. These have drawn various commentaries over the years. For example, Hertz, Reimann and Bostwick (1994) note that in America health care organisations are at a much earlier stage of evolution than other businesses and that relatively there are fewer health care organisations and fewer people in them who understand the principles of TQM.

This situation may also apply in Australia. Eastman (1992) stated "successful implementation of TQM and sustaining the initiative will require a fundamental paradigm shift in health care management and thinking in Australia. Changing the way we think about quality, and changing the culture of our hospitals, will not occur overnight". Likewise in a letter to the *Medical Journal of Australia*, Morton (1992) was strongly critical of the bureaucracies in Australian hospitals and suggested that TQM will never be successful in these organisations because the "... political and bureaucratic processes which regulate them are profoundly anti-quality". While these comments were made in the early 1990s, there is little by way of compelling argument to suggest that there has been a revolution in attitudes within the Australian health sector since then.

In traditional management studies, organisational structure is regarded as important, and, at least in part, determines much organisational behaviour and the uptake or reaction to change initiatives. There is evidence to suggest that organisational structure may affect the implementation of TQM in health care organisations. Godfrey, Berwick and Roessner (1992), in describing ten lessons that must be learned before quality management can work in health care, concluded that "... structure is critical if TQM is to work", but they did not elaborate on this conclusion. In a background issues paper, published as part of the Australian government's National Health Strategy, it was argued that Australian public hospitals suffered from low productivity that was

due in part to "inefficient organisational structures" (Macklin 1991). Chaufournier and St. Andre (1993) when commenting on the successful implementation of TQM at the George Washington University Medical Centre (GWUMC) argued, "... historically, new management initiatives in GWUMC failed because there was no structure to sustain momentum ... new initiatives were rarely integrated into established management systems". Other authors who have written that hospital structures must change before the implementation of TQM can occur include Eskildson (1994), Krishnan et al. (1993), Gardner and Cummings (1994), and McCabe (1992).

Degeling (1992) wrote that Australian hospital structures must change to "ensure a significant devolution in the location and exercise of management responsibility"; thereby suggesting current structures are inflexible. Scott (1982) cited research that suggested "the more complex the nature of the work and the higher the qualifications of the workers, the larger and more elaborate the hierarchy". According to Masters (1996), "autocratic organisational structures and management policies" can lead to TQM implementation problems (in health care organisations). He suggests that structural problems have led to the "isolation of individuals and departments" and that restructuring may be needed to resolve some of the "longstanding turf battles" that prevail in these organisations. In an article describing the necessary changes to implement TQM in the National Institutes of Health (USA), Gardner and Cummings (1994) concluded, "... structure is fundamental to problems and solutions when implementing change".

While the issue of structure as a variable impacting on the implementation of TQM has been raised in the literature, there is a lack of specific description of what structures are present in health care organisations or how the features of these may impede the progress of implementation. In particular, there are few papers that have presented results of systematic and prolonged studies of the role of organisational structure in the implementation of TQM in health care organisations.

Defining structure

Departmentalisation, policies, procedures, and processes create structure in an organisation. The hierarchies of professional health care organisations are more complex than a typical business (Goldsmith 1989), with more diffuse authority (Pettigrew, McKee & Ferlie 1988), and are epitomised by the minor emphasis placed on management issues (Kricker 1993).

There are two major types of organisational structure present in the Australian health care sector. The large teaching hospitals are complex, decentralised organisations (Simpson 1994) and examples of professional bureaucracies. Private hospitals and smaller public hospitals have structures known as machine bureaucracies. The definitions provided by Mintzberg (1983b) for these organisational forms are in Table 1.

TABLE 1 Definitions of Organisational Structures

Machine Bureaucracy:

Highly specialised, routine design tasks, very formalised procedures in the operating score, a proliferation of rules, regulations, and formalised communication throughout the organisations, large sized units at the operating level, reliance on the functional basis for grouping tasks, relatively centralised power for decision making, and an elaborate administrative structure with a sharp distinction between line and staff. These have small numbers of full time medical staff, sometimes none at all, who have a direct role in management.

Professional Bureaucracy:

Relies for co-ordination on the standardisation of skills and its associated design parameter, training and indoctrination. Hires duly trained and indoctrinated specialists (professionals) for the operating core, and then gives them considerable control over their own work. The standards originate largely outside its own structure, and the professional bureaucracy emphasises the authority of a professional nature, the power of expertise.

Source: Adapted from Mintzberg (1983b).

According to Robbins and Barnwell (1989), a characteristic of professional bureaucracies is that they can perform specialised tasks with the same efficiency as a machine bureaucracy, but that there was a tendency for sub-unit conflicts to develop. Power flows from a number of sources. In the case of professional bureaucracies,

power stems from expertise, or in particular, from the power that the professionals have because of their skills (Mintzberg 1983a; Abernethy & Stoelwinder 1994). Professionals have standards of conduct and ethical codes of practice that have been inculcated into the employees during training. The significance of these standards is that they serve as a form of co-ordination in professional organisations. Co-ordination, including the co-ordination of interdependencies is a key task of management to either reduce the need to exchange information or to optimise its transfer. Thus professional bureaucracies are organisations whose very structure is shaped by the requirements of the professional staff working in them.

In professional bureaucracies "not only do the professionals control their own work, but they also seek collective control of the administrative decisions that affect them" (Mintzberg 1983b). There are other structures within professional bureaucracies. According to Mintzberg (1983b), professional bureaucracies frequently have parallel administrative hierarchies, "one democratic and bottom-up for the professionals, and a second machine bureaucratic and top-down for the support staff". Hospitals commonly have a tripartite organisational structure consisting of separate limbs that control medical, nursing, and administration staff. Robb (1975) described British hospitals as having "types of structure and process which are commonly regarded as existing only in separate organisations". It is the organisation of the power relationships between these different groups and the resultant political processes for the exercise of control that is a key feature of professional bureaucracies.

Life and practice in professional bureaucracies can be contrasted with private or smaller regional public hospitals, which are better categorised as machine bureaucracies. A CEO and a management team run these hospitals centrally. The doctors are mainly visiting medical staff who have an "intermittent relationship with the hospital which has a calculative commercial dimension and for many is restricted to matters that touch on their immediate interests" (Degeling & Carnegie 1995).

Effects of size

Size and structure go hand in glove and both mediate the uptake of new practices. Barr (1995) found that size was an important factor in determining physician satisfaction in a review of the organisational literature pertaining to medical organisations that amalgamated. He proposed this was due to improved physician-patient communication, which in turn led to improved patient satisfaction.

Studies of optimal size of hospitals have produced conflicting results. However, there is general agreement that: very small hospitals are not cost efficient, and that large hospitals exhibit decreasing returns to scale. Other things being equal, 300-500 bed hospitals are considered the most cost efficient (Booz, Allen & Hamilton 1990).

In summary, the literature suggests that the presence of professionals in organisations induces a unique structure and may affect the control of the organisation. There are predominantly two structural types present in health care: machine and professional bureaucracies. Professional bureaucracies have a management structure, determined by the autonomy required of its professionals, which may impede the implementation of TQM because of vested constituent and professional interests.

Although many health care organisations are actively implementing TQM (improvement practices), there have been few published empirical papers on the implementation of TQM in Australian health care organisations. The purpose of this research was to investigate the hypothesis that organisational structure does have an impact on the implementation of TQM in health care organisations.

Method

Classification of stage of implementation

Table 2 describes the system, adapted from Sahney and Warden (1991), used to classify the stage of TQM implementation in organisations. A classification of Phase 1 was made if policies were present to introduce TQM, but there were no organisational activities in place to deploy these policies. An organisation was defined as being in Phase 2 if at least two of the activities described in column 2 of Table 2 were deployed. In Phase

2a organisations, these activities were deployed in less than half of the organisation and were departmentally initiated, based, and controlled. In Phase 2b these activities were organisation-wide and centrally controlled and coordinate . In Phase 3 organisations all the activities in Table 2 were deployed throughout the organisation.

Brown et al (1994) called these three phases Startup, Alignment and Integration. The classification used by Gaucher and Kratochwill (1993) was Awareness, Knowledge, Implementation, and Integration, where Knowledge and Integration are approximately equivalent to Phase 2a and Phase 2b.

Phase 1 (Initiation)	Phase 2a, b (Transformation)	Phase 3 (Integration)		
Learning	Chartered teams	Quality management way of life		
Practice	Recognition	Total Quality Management implemented		
Framework	Customer measurement			
Customer awareness	Cross-organisational			
Organisational awareness	Outcome measure link			
	Human resource policies			
	Process design			

TABLE 2: Classification of stage of Implementation

Source: Sahney and Warden (1991).

Sample

The data presented here were assembled for 27 organisations (Badrick 1997). Public and private hospitals of different structural type and size were chosen (Table 3). The inclusion of laboratories as well as hospitals was a deliberate intention to enable comparisons to be made in an area where organisations are more receptive to TQM and yet have the same professional groups and structures as hospitals. Stuart (1994) has suggested that the reason why laboratories are more receptive to TQM than patient care services may be because of their history of statistical process control, and also their similarities to manufacturing systems.

Case studies

The case studies were constructed from interviews and documentary evidence collected from each organisation over a period of at least two years. Interviews with key staff (CEO, Quality Managers, and senior managers) were all conducted in a one-to-one situation at the study site and at a mutually convenient time. The interviews proceeded without interruption and ran for between 90-120 minutes. In total, one hundred and forty interviews were conducted. These key staff were interviewed at least twice and up to four times during the implementation to provide data about the process as it occurred. This allowed questions to be asked at different times, and the same question to be repeatedly asked in different ways to improve the objectivity, validity, and reliability of the data.

The interviews were structured, but also included some open-ended questions, a form classified as *schedule*, *standardised* interview by Denzin (1970). Semi-structured interviews were designed to provide both specific answers to some of the research questions and to allow exploratory digression. The purpose of the open-ended questions was to illicit unique features present in each site. That is, they were deliberately exploratory in nature. The interviews were also focused. That is, the questions were rephrased and defined for each respondent because of the different context of each subject.

Topic areas covered the respondents' recollections of the context within which they, personally, became involved in TQM and the organisational status and concepts of quality held at that time. The interviewees' opinions were also sought on the benefits and disadvantages of TQM to date, and on issues of evaluation and monitoring of progress. Not all questions were asked of each respondent. Where respondents had a specific responsibility for a particular aspect of quality, then the interview focussed on that aspect.

Validation of case study analysis

Two processes were undertaken to validate the case study analysis. In ten of the case studies (sites), the entire case was sent to the Quality Manager at the site for review. The Quality Managers were invited to critically assess the case study for accuracy of the analysis as well as completeness of the data collected. None of these Quality Managers reported errors in the analysis of the collected data. At each of these sites, great care was taken to maintain confidentiality.

A further test was conducted to verify the accuracy of the classification of the case studies by the primary researcher (Badrick). A selection of seven of the case studies was given to an independent assessor who independently and blindly reviewed these cases. There was no significant difference in the classifications given to the organisations (Badrick 1997).

Results and Discussion

Each of the case studies was classified by (1) stage of implementation, (2) type of bureaucracy, (3) ownership, and (4) whether hospital or non-hospital, to identify any obvious relationships between structure and governance and implementation success.

Table 3 shows that of organisations in the study, seven had achieved phase 3 (integration), eight were at phase 2b, eleven were at phase 2a, and one was at the initiation phase (phase 1). The data in Table 3 suggest there is a relationship between organisational structure, governance and the ability to implement TQM. Different sites within an organisational type had made similar progress, a fact that suggests some common factors are present and affecting the implementations.

Machine bureaucracies (public and private) were able to implement TQM faster than professional bureaucracies (public and private). Within the category of professional bureaucracies, specialised public organisations were faster at implementing TQM than private partnerships or non-specialised public organisations. In the group of machine bureaucracies, TQM was implemented faster in the private for-profit organisations than in either the public, or the not-for-profit private organisations.

TYPE OF ORGANISATION	Implementation phase				
	1	2α	2b	3	
Public Hospitals - Metropolitan					
Professional Bureaucracies	-	4	-	-	4
Public Hospitals - Metropolitan Specialised					
Professional Bureaucracies	-	-	4	-	4
Public Hospitals - Regional Machine Bureaucracies	-	1	2	-	3
Private Hospitals - for-profit Machine Bureaucracies	1	1	-	3	5
Private Hospitals - Not-for-profit Machine Bureaucracies	-	1	2	2	5
Private Organisations	-	-	-	1	1
Public Organisations - Machine Bureaucracies	-	4	-	1	5
Number at each Implementation Stage	1	11	8	7	27

TABLE 3 -	Progress	in Im	plementing	TQM	at the	Research	Sites
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Professional versus machine bureaucracies

The data in Table 4 demonstrate that machine bureaucracies were relatively more successful at implementing TQM within a time period of the study. Professional bureaucracies are more closely clustered with the modal level being 2a. Some machine bureaucracies (37%) reached the higher level 3 with a fairly even spread across phases 2a, 2b, and 3.

Organisational Type	Implementation Phase				
	1	2a	2b	3	
Professional Bureaucracy	-	4	4	0	8
Machine Bureaucracy	1	7	4	7	19
Total	1	11	8	7	27

TABLE 4 Implementation Progress by Organisational Structure.

Public versus private ownership

Table 5 aggregates organisations into either public or private. Private organisations, overall, were more successful at quickly implementing TQM than their public counterparts. That is, a higher percentage of private sites achieved phase 3 although some remained stalled at phase 1 and 2a.

Organisational Type	Implementation Phase				
	1	2a	2b	3	
Public Ownership	-	7	6	1	14
Private Ownership	1	4	2	6	13
Total	1	11	8	7	27

TABLE 5 Implementation Progess by Ownership

Organisational size, ownership, and problems encountered

There is an intuitive logic to the idea that small organisations might be easier to manage and, therefore, that changes might be wrought more rapidly. However, in the current study while one interpretation of the inability of any of the large metropolitan hospitals to proceed past phase 2b is size, it also true that some smaller organisations also did not progress their TQM implementation beyond this. Comparing organisations of roughly equivalent size, some have progressed to phase 3 while others did not move beyond phase 2a, often despite longer gestational periods. Whether this is truly a plateau effect or a difference in the rate of implementation is uncertain from this study.

Generally, private organisations were more successful at implementing TQM than were their public counterparts although again this relationship was not an absolute.

In an attempt to gain an understanding of the constraints in various organisational forms, part of the case study approach gathered data on the nature of problems encountered by organisations during implementation. While resourcing was a common factor, different problems manifested themselves for the various organisational forms (Table 6).

TABLE 6Major Problems with TQM Implementation

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PROBLEM IDENTIFIED	PHASE 2a	PHASE 2b	PHASE 3	PHASE 1	PHASE 2a	PHASE 2b	PHASE 3
Resources	100	100	100	100	100	100	100
External Influences	60	60	100	-	-	25	
Senior Management	60	90	-	50	-	75	40
Middle Management	20	50	-	-	33	25	20
Lack of Knowledge	60	40	-	100	-	25	60
Lack of Motivation	80	50		100	33	25	60

The major difference between public and private sites appears to be the impact of "external influences" on the TQM implementation process in public organisations. These include externally imposed changes, which, like TQM, are difficult to manage. The impact of the external environmental influences were considerable within the public sector and included nurses career restructuring, clerks job redesign, regionalisation of health, introduction of major organisational changes (for example, computer information systems, ACHS Accreditation, Disease Related Group funding systems, Casemix funding, budget uncertainty, (both sudden increases and decreases), and the then Public Sector Management Commission requirements. The combined effect was to produce uncertainty, decrease the motivation, and increase the level of cynicism of staff at all levels within these organisations. In fact, many of these external influences, as perceived by the public organisations, were within the ambit of control of the private organisations.

There was a fundamental difference in the mode of operation of the different hospital types in this study. Private hospitals competed against each other in a market where they needed to attract customers (doctors) who, in turn, referred patients. The machine bureaucracy structure of for-profit and not-for-profit private hospitals was consistent with this role. There was always a Medical Advisory Board, often also general forums of all staff and certainly heads of department meetings, but generally few other formal management structures. The CEO was a powerful figure in the organisation and had the responsibility for leading the organisation to profitability (for-profit hospitals) or survival (not-for-profits). The CEO was fully accountable to a Board of Governors who had the power to replace the CEO (as happened during this project in three cases).

Privately owned for-profit hospitals and the not-for-profit hospitals (church owned) showed no significant differences in the speed of the implementation. Drucker (1992) stated that the strength of not-for-profit organisations was that their mission was the basis of their strategy. A clear mission provides clear requirements for the organisation and allows the organisation to focus on action. According to Drucker, starting with a clear mission can allow an organisation to be more productive. The church owned hospitals have a community obligation, and this is manifest in many ways including the employment of special staff (pastoral care and volunteers). According to Fahey (1991), by focussing on its mission values, a hospital can promote cost effectiveness and achieve a competitive advantage. Their customers may also be less demanding of a service provided by a religious order than one for commercial gain. One not-for-profit private hospital CEO summed up the differences between the two types of organisation as follows.

The differences between for-profit and not-for-profit hospitals are slight. The management principles are the same, health is about volumes, and it is a volume sensitive business. The only difference may be that in not-for-profits, there are needy cases, which may get a discount, and the philosophy with these is fundamentally different. Perhaps staff is looked at more benevolently, but whereas profit is not the only motive, enough money must be made to cover costs and provide for growth in services. You expect the same results. Marketing may be different and may take advantage of the religious background. The religious based hospital may be seen to be more a healing environment that gives comfort, security and warmth.

In contrast, the larger public teaching hospitals have three roles, patient care, teaching, and research. These hospitals have much more complex and decentralised organisational structures with numerous operational committees reporting to an Executive Committee. These operational committees usually have the authority to set policy independently of Executive.

As is consistent with their structure (professional bureaucracies), there is also external input from the professional organisations (Universities and Royal Colleges) into the decision-making process, particularly in relation to the teaching and research roles. However, as these roles are not mutually exclusive, the external influences permeate many aspects of management. External influences were identified by these organisations (Table 6) as a major problem with the implementation of TQM. Handy (1991) described four types of organisational orientation - the form most closely representing a "quality organisation" is the task orientation. But most public organisations, particularly hospitals and laboratories, are role oriented. In terms of TQM implementation, there appears to be a fundamental structural mismatch.

A CEO who had experience in both types of organisation described structural problems in public hospitals and argued that:

The only unique thing about health is the tripartite structure, which has arisen in health management. Having a tripartite structure is inefficient and so we opted for a structure, which was effective in terms of achieving our goals, and not purely a profession-based structure.

The Assistant CEO at public hospital stated:

There are real problems between the clinical staff and the administration staff. The hospital is now moving towards a "shared leadership" phase, away from the direct animosity or master servant relationship phase. This has been achieved by gradually changing the organisational structure away from the tripartite model to one of core business units. This entails giving greater responsibility and accountability to line staff for management issues. The traditional structure had few lateral links and hence little teamwork. Individuals moved up their own branch hierarchy rather than between branches, this stiffed co-operation. People were not encouraged to delegate; there were only rules from above.

These views from senior managers (also clinically trained) support the view that some organisational structures currently in Health Care Organisations are no longer appropriate to be effective management of health care organisations.

Limitations of the Study

There were two major limitations in this study. The first involves time frames. As this study was essentially a field investigation, the start times of implementation and other historical events in organisations could not be controlled. However, the timing of implementation was relatively compressed. In recognition of time issues the study design ensured that data were gathered over a two to three year period with multiple visits to sites. Even so, this time was too short to be fully certain of ultimate implementation success. The second limitation is inevitably that of sample size. The study was, in fact, a large, semi-longitudinal exercise focussing on developing comprehensive case studies to develop an informed understanding of the situations observed. The sample sizes do not permit statistical manipulation of data but rather quantitative observations are presented as a convenient means of expressing the consolidated conclusions of the case studies.

Conclusion

While not attempting to be definitive in its conclusions because of admitted limitations this paper makes a worthy contribution to the domain of health care management. First evidence is provided that suggests an important role, and hitherto not understood role, of organisational structure of the implementation of change and TQM. Those sites where TQM had failed to take a hold organisation-wide, were classical professional bureaucracies, where the CEO has the role of facilitation rather than direction. An important implication of the findings for health care organisations is that they may have to alter their structures to enable them to make changes, such as TQM, that may become critical to their efficiency. Masters (1996), in his summary of the major barriers to the implementation of TQM, listed lack of management commitment and inappropriate organisational structures. This view is supported by the findings at the research sites. Other authors have made similar suggestions (Gallin & Smits 1997; Schimpff & Rapoport 1997), but nowhere has there been reported a systematic time-based study to objectively compare progress in different structures of an organisational change like TQM.

Finally, it is suggested that the political complexity of professional bureaucracies represents an additional challenge to TQM and change theorists. TQM is a management philosophy that requires a holistic approach to the customer/supplier chain, which is as applicable in service as in manufacturing organisations. It must, however, not ignore the political realities of complex service organisations, and rather should seek ways of incorporating the unique features of these organisations into the implementation strategies. The principles of TQM have universal application and are already routinely used by professionals. The challenge to the practitioners of TQM seems to be to find these existing synergies and build on them, rather than attempt to change the long held practices of groups who are adopting TQM.

References

Abernethy, MA & Stoelwinder, JU 1995, 'The role of professional control in the management of complex organisations', *Accounting, Organisations and Society*, vol 20, no 1, pp1-7.

Badrick, TC 1997, Implementing TQM in *Australian health care organisations*, PhD Thesis, Queensland University of Technology.

Barr, DA 1995, 'The effects of organisational structure on primary care outcomes under managed care', *Annals of Internal Medicine*, vol 122, pp353-359.

Booz, Allen & Hamilton 1990, 'Patient focused hospital', Unpublished paper given at "Streamlining the Health Industry " Conference, Sydney cited in Macklin, J 1991, *Hospital Services in Australia - Access and Financing*, The National Health Strategy - Issues Paper No. 2, National Health Strategy Unit, Melbourne.

Brown, MG, Hitchcock, DE & Willard, ML 1994, Why TQM Fails and What to Do About It, Irwin Professional, Park Ridge, United States of America.

Chaufournier, RL & St. Andre, C 1993, 'Total quality management in an academic health centre', *Quality Progress*, vol 26, no 4, pp63-65.

Degeling, P 1992, *Management is more than hierarchy plus information*, Centre for Hospital Management and Information Systems Research, University of New South Wales, Sydney.

Degeling, P & Carnegie, M 1995, 'Structural impediments to TQM in Australian health care', *Quality Management in Health Care*, vol 3, no 4, pp54-61.

Denzin, NK 1970, The Research Act, Aldine Publishing, Chicago.

Drucker, PF 1992, Managing for the Future, Butterworth Heinemann, Oxford.

Eastman, CJ 1992, 'Total Quality Management: the challenge for hospitals in the 1990s', *The Medical Journal of Australia*, vol 157, pp219-220.

Eskildson, L 1994, 'Improving the odds of TQM's success', Quality Progress, vol 27, no 4, pp61-63.

Gardner, DB & Cummings, C 1994, 'Total quality management and shared governance: synergistic processes', *Nursing Administration Quarterly*, vol 18, no 4, pp56-64.

Fahey, J 1991, 'Achieving quality management through organisational values', *Australian Clinical Review*, vol 11 no 1, pp77-81.

Gallin, JI & Smits, HL 1997, 'Managing the interface between medical schools, hospitals and clinical research', *Journal of the American Medical Association*, vol 277 no 8, pp651-654.

Gaucher, E & Kratochwill, EW 1993, 'The leader's role in implementing total quality management', *Quality Management in Health Care*, vol 1, no 3, pp10-18.

Godfrey, AB, Berwick, DM & Roessner, J 1992, 'Can quality management really work in health care?' *Quality Progress*, vol 25, no 4, pp23-28.

Goldsmith, J 1989, 'A radical prescription for hospitals', Harvard Business Review, vol 67, no 3, pp104-111.

Handy, CB 1991, Gods of Management - The Changing Work of Organisations, Business Books, London.

Hertz, HS, Reimann, CW & Bostwick, MC 1994, 'The Malcolm Baldrige national quality award concept: could it help stimulate or accelerate health care quality improvement?' *Quality Management in Health Care*, vol 2, no 4, pp63-72.

Kricker, WA 1993, 'Internationally competitive health care systems: the hospital chief executive officer's perspective', *Clinical Biochemist Reviews*, vol 14, no 1, pp6-12.

Krishnan, R, Shani (Rami) AB, Grant, RM & Baer, R 1993, 'In search of quality improvement: problems of design and implementation', *The Academy of Management Executive*, vol 7, no 4, pp7-20.

Macklin, J 1991, Hospital Services in Australia - Access and Financing, The National Health Strategy - Issues Paper No. 2, National Health Strategy Unit, Melbourne.

Masters, RJ 1996, 'Overcoming the barriers to TQM's success', Quality Progress, vol 29, no 5, pp53-55.

McCabe, WJ 1992, 'Total quality management in a hospital', Quality Review Bulletin, vol 18, pp134-139.

Mintzberg, H 1983a, Power In and Around Organisations, Prentice-Hall, Englewood Cliffs, New Jersey.

Mintzberg, H 1983b, Structure in Fives - Designing Effective Organisations, Prentice-Hall, Englewood Cliffs, New Jersey.

Morton A 1992 Medical Journal of Australia, (letter) Medical Journal of Australia, vol 157(8), p 573.

Pettigrew, A, McKee, L & Ferlie, E 1988, 'Understanding change in the NHS', *Public Administration*, vol 66, pp297-317.

Robb, JH 1975, 'Power, profession and administration: an aspect of change in English hospitals', *Social Science and Medicine*, vol 9, pp373-382.

Robbins, SP & Barnwell, NS 1989, Organisation Theory in Australia, Prentice Hall, New York.

Sahney, VK & Warden, GL 1991, 'The quest for quality and productivity in health services, *Frontiers of Health Services Management*', vol 7no 4, pp2-37.

Scott, WR 1982, 'Managing professional work, three models of control for health organisations', *Health Services Research*, vol 17, no 3, pp213-240.

Schimpff, SC & Rapoport, MI 1997, 'Ownership and governance of university teaching hospitals: let form follow function', *Academic Medicine*, vol 72, no 7, pp576-588.

Simpson, J 1994, 'Doctors and management - why bother?' British Medical Journal, vol 309(6967), pp1505-1508.

Stuart, D 1994, 'Quality down under: if we knew then what we know now', *Quality Management in Health Care*, vol 3, no 1, pp55-62.