The Effect of Organisational Structure on Quality Management in Public Hospitals in a Developing Nation: A Comparative Study Between District, State and National Level Hospitals in Malaysia

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Abstract

The objective of the study was to empirically assess the practice of quality management among employees of Malaysian public hospitals at the district, state and national level hospitals. Comparative analysis on the practice of quality management was made among the three groups of hospitals. Self-administered questionnaire was the main method of data collection. Twenty-three public hospitals throughout Peninsular Malaysia participated in the survey. Practice of quality management was found to be significantly higher in district hospitals than in the national referral centre, which is based in the capital city of Kuala Lumpur. However, there was no significant difference in perception of implementation outcome between the three levels of hospitals. Among the factors of quality management, teamwork was found to be significantly higher in district hospitals than in state hospitals and the national referral centre. Leadership and management commitment was found to be significantly higher in district and state hospitals than in the national referral centre. The effect of organizational structure could have an effect on practice of quality management.

Key Words: Quality Management, Public Hospitals, Health Care, Public Sector, Malaysia

1. Introduction

Malaysia, which is situated in Southeast Asia, is a federation of thirteen states and three federal territories. Peninsular Malaysia is made up of eleven states, while East Malaysia comprises of the states of Sabah and Sarawak. The eleven states in Peninsular Malaysia are Perlis, Kedah, Pulau Pinang, Perak, Melaka, Negri Sembilan, Selangor, Johor, Pahang, Terengganu and Kelantan. Malaysia has three federal territories which consist of the Federal Capital of Kuala Lumpur, and the Administrative Capital of Putrajaya in the Peninsula; and the island of Labuan, which serves as an offshore financial centre. Malaysia has a land area of 329,750 square kilometres and a population of 24 million. Indigenous bumiputera form 65.1 per cent of the population, while Chinese make up 26.0 per cent and Indians make up

7.7 per cent of the population respectively. About 5.9 per cent or 1.4 million of the population are non-Malaysian citizens (Malaysian Statistics Department, 2001).

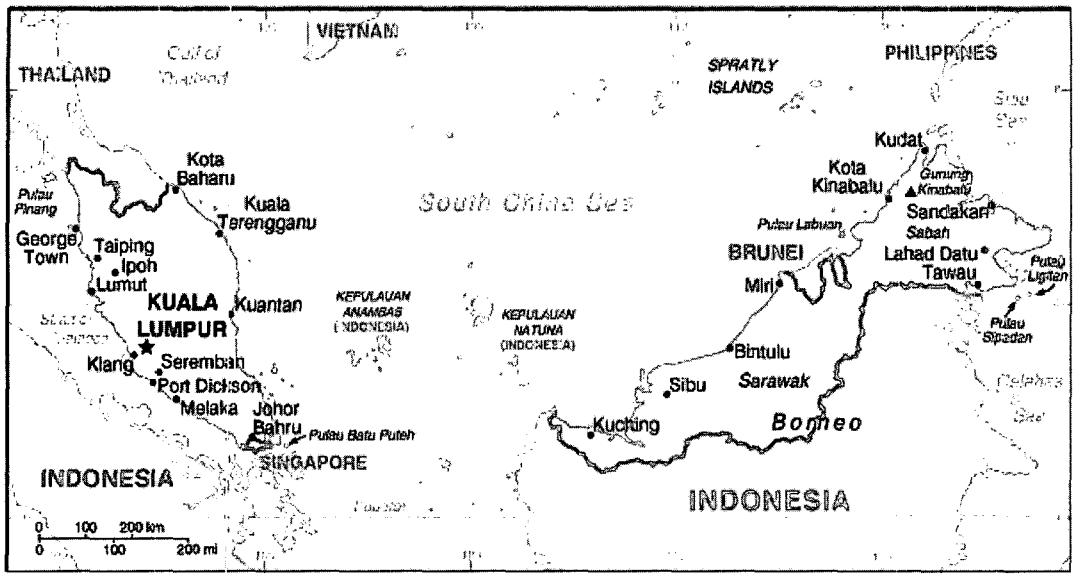

Figure 1. The Map of Malaysia

Malaysia has, over the years, transformed its economy from one that was dependent on agriculture and mining, to a broader economy with an emphasis on manufacturing and an export-orientation. Export was led by the electrical and electronics industry. The strategy has served the country well, and Malaysia has placed itself among the middle-income countries.

2. Malaysian Public Health Care Delivery

The main provider of health care services in Malaysia is the Ministry of Health, through its network of 121 hospitals and extensive health clinics facilities. The country has also seen a burgeoning of private health care services over the last two decades, largely due to the Government's privatisation policy. However, the profit-oriented approach of private health care self-limits the service to the more affluent urban areas, while the rest of the country's health care needs are still being catered for by the public sector. The private sector constitutes only about 30 per cent of total hospital beds in the country (Suleiman and Jegathesan, 2000).

Malaysia's expenditure on health care as a percentage of GDP is considerably lower than in other developing countries as shown in Table 1. The relatively low expenditure can be attributed to the emphasis given to rural health development and infrastructure; and the pro-

motional and preventive approach to health care taken by the MOH. Malaysia is one of the few countries in which public spending is biased towards the poor, and this has greatly reduced inequity in access to health care. The extensive network of health care services provided by the government through its hospitals and clinics throughout the length and breadth of the country has led the population at large to enjoy a health status that is almost comparable to the developed countries (Suleiman and Jegathesan, 2000).

Health care strategies adopted by the country since independence has been successful in raising the health status of the population, particularly its emphasis on primary health care through the rural health services and family health services. The country has succeeded in reducing its infant mortality rate from 75.5 per thousand live births in 1957 when the country gained independence, to 6.8 per thousand live births by 2000 (Ministry of Health Malaysia, 2003). Malaysia has a fairly equitable distribution of health centres, which are highly subsidised by the Government, and are accessible to more than 95 per cent of the population in Peninsular Malaysia and to about 70 per cent in Sabah and Sarawak. To that effect, it is acknowledged that Malaysia's health service is one of the best in the Asia-Pacific region (Omar, 2000).

Table 1. Health Expenditure as Percentage of GDP and Health Status in Selected Asian Countries, 1990

Country	Health Expenditure (% GDP)	Life Expectancy at Birth (years)	Infant Mortality	Population per physician
Korea	6.6	72	16	1,370
Hong Kong	5.7	78	7	820
Thailand	5.0	68	27	5,000
Papua New Guinea	4.4	52	55	12,870
Sri Lanka	3.7	72	18	NA
China	3.5	69	38	1,060
Malaysia	3.0	71	15	2,700
Philippines	2.0	64	41	8,120
Indonesia	2.0	59	74	7,030

Source: Suleiman and Jegathesan (2000), 396

Malaysian public hospitals are organised into the following categories:

i) National Level Hospital which serves as the national referral hospital and provides a comprehensive range of tertiary care services. Hospital Kuala Lumpur is the National Referral Centre for the whole country. It is the largest hospital in the country with 2,502 beds.

ii) State Level Hospitals providing a comprehensive range of secondary care services.

These are hospitals which are located in the state capital and are large hospitals with bed capacity from 800-1200. Some state hospitals also serve as regional hospitals in which case, some tertiary care services are provided. Examples are Hospital Pulau Pinang and Hospital Sultanah Aminah Johor Bharu.

iii) District Level Hospitals which provide basic inpatient care services. For those with resident specialists, some secondary level specialty services are also provided. District hospitals without specialists are generally smaller with beds ranging from 30 to 150, while those with specialists may have beds ranging from 200 to 500.

Although Malaysia takes pride in having a public health care system that is equitable and accessible, nonetheless health services in the rural areas are still weighed down by the problem of manpower. Efforts to reduce inequity in health care delivery services are being hampered by the lack of trained manpower to keep up with the investment in physical infrastructure. Most doctors are reluctant to work in rural areas, and those who do so find that they are often neglected and lose the opportunity to further their specialist studies. Financial incentives given to public sector doctors also do not have much impact in terms of motivating them to serve the rural areas (AlJunid, 2002). The lack of trained manpower is not only limited to rural health facilities alone, although the problem is more acute in the rural rather than urban areas. Complaints of overcrowding, overworked staff and long waiting hours are common in Malaysian public hospitals.

The question of manpower remains a significant issue in Malaysian public hospitals. Grievances regarding the heavy workload and long working hours are common among Malaysian doctors (Ai, 2001). Apart from this, the large salary gap between private and public hospitals serves as a push factor for the migration of doctors from the public to the private sector. In order to ease the shortage, the MOH has been employing foreign health professionals such as medical specialists, medical officers and nurses on a contract basis. Malaysia currently has a doctor to population ratio of 1:1,465. However, disparities between the states remain high with the Federal Territory of Kuala Lumpur at 1:372, in comparison with Sabah at 1: 4,120 (Economic Planning Unit, 2001).

3. Quality Management in Health Care

Besterfield (1999) defines quality management as both a philosophy and a set of guiding principles that represent the foundation of a continuously improving organisation. Evans and Lindsay (1996) suggest that it is the total, company-wide effort that is achieved through the full involvement of the entire workforce and a focus on continuous improvement that companies use to achieve customer satisfaction. It is both a comprehensive managerial philoso-

phy as well as a collection of tools and approaches for its implementation. The word 'total' in the acronym TQM conveys the idea that all employees, throughout every function and level of the organisation, pursue quality; while the word 'quality' suggests excellence in every aspect of the organisation; and 'management' refers to the pursuit of quality results through a quality management process (Bounds *et al.*, 1994). Thus, quality management is grounded in the broader concept of quality, which encompasses all aspects of an organisation.

Much of the earlier development on quality management took place in the industrial sector, particularly through the efforts of Deming and Juran in rebuilding the Japanese industries after the Second World War. Nonetheless, similarities between the industries and health care quality have been emphasised by proponents of health care quality management. The need for greater emphasis on consumer requirement and expectations, greater attention to the design of systems and processes in health care, management responsibility in assuring the quality of clinical care, the need to develop appropriate applications of statistical control methods to health care monitoring, and the need for quality to permeate all levels of the organisation through effective training and education, has been cited as some of the similarities that health care can adopt and adapt from manufacturing (Donabedian, 1993). There are nonetheless limitations to the industrial model in that it ignores the complexities of the patient-practitioner relationship, downplays the knowledge, skills and motivation of the practitioner, ignores the trade-offs to quality, emphasises supportive activities rather than clinical ones, and provides less emphasis on improving professional performance (McLaughlin and Kaluzny, 1990). The differences, however, do not dissuade proponents of quality management in health care. Rising health care costs and its associated wastes have often been cited as one of the reasons for quality management to permeate the health care sector. Costs associated with waste and errors in health care are estimated to be between 20 to 40 per cent of the total costs of the industry (McLaughlin and Kaluzny, 1999). Excessive medical cost is also one of the deadly diseases cited by Deming (1994) which, according to him, stands in the way of a complete transformation of western management to quality management. His concern may be exemplified in the medical care expenditure of the United States which was estimated at a staggering USD 1.175 trillion in 1997 or 15 per cent of GDP (Getzen, 1997). Thus, faced with escalating costs and the need for a more efficient and effective service delivery has left most health care organisations with little choice but to board the quality train.

4. Research Problem

Quality management has been actively practiced in Malaysian public sector since the early 90s with the release of Development Administration Circular No. 1/1992 entitled "Guidelines for Total Quality Management in the Public Sector"; and Development Administration

Circular No. 4/1991, entitled "Guidelines on Strategies for Quality Improvement in the Public Sector". Both circulars provided the guidelines for quality improvement efforts in the public sector. Under the Eighth Malaysia Plan, quality management will continue to be reinforced as one of the policy thrusts towards service excellence in the public sector (Economic Planning Unit, 2001).

The Ministry of Health (MOH) can be regarded as a frontrunner in implementing quality improvement efforts among public sector agencies. Its Quality Assurance Programme (QAP) was started in 1985, ahead of any Government directives on quality management. Escalating costs and rising consumer expectation were among the factors which provided the impetus for quality management to take root in the health care sector. Efforts carried out in health care organisations in the United States, Britain, Canada and Australia provided the drive for such moves to be carried out in Malaysia. Today, apart from the Quality Assurance Programme (QAP), a whole host of quality initiatives are taking place in MOH hospitals such as Clinical Practice Guidelines (CPG), incident reporting, nosocomial infection control, Peri-operative Mortality Review (POMR), Quality Circles, and clinical audit. A number of public hospitals have also won national quality awards. The country's coveted Prime Minister's Quality Award was won twice by state level hospitals. Given the emphasis on quality within the public health care delivery system, it is therefore timely that an assessment is made on the implementation of quality management among employees of the MOH hospitals. Empirical studies on practice of quality management in health care have been found to be wanting, and as noted by Bigelow and Arndt (1995), the emphasis of the literature is still on anecdotal cases such as interviews with CEOs on the implementation of quality management in their organisations. It is thus anticipated that this study will fill the lacunae.

The main objective of the study is to empirically assess the practice of quality management among employees of Malaysian public hospitals at the level of state and district hospitals, and the national referral centre. Comparative analysis on the practice of quality management is made among the three groups of hospitals. Barriers to the implementation of quality management are also assessed and again, comparison is made between the three levels of hospitals. Lastly, perception of outcome of quality management implementation between employees of district, state and national level hospitals is also analysed. Comparative analysis between the three levels of hospitals can also shed some light onto the effectiveness of the Malaysian penchant for large organisational structures. The national referral centre is a case in point where it is among the largest hospitals in Asia.

5. Research Method

Given the large geographical area to be covered, self-administered questionnaire was the

main method of data collection used. In constructing the questionnaire, a number of instruments were consulted, particularly those developed for measuring quality management practices These are notably those by Saraph, Benson and Schroeder (1989), Flynn, Schroeder and Sakakibara (1994), Powell (1995), and Dow, Samson and Ford (1999). Although these instruments were not developed specifically for health care services, they nevertheless provide a pool of items for the development of the instrument used in this survey. In designing the format of the questionnaire, the hectic working environment of the respondents was taken into account and under the circumstances, it was decided that closed questions, as opposed to open-ended questions, would be used throughout the questionnaire. Sixty items were grouped under practice of quality management, and these items were in a Likert-scale format with responses ranging from 1 (strongly disagree) to 5 (strongly agree). Items such as 'Top management is fully committed to quality activities' were reflective of leadership and management commitment while items worded 'Superiors always take suggestions seriously' represented the employee involvement aspect of quality management.

Items on barriers to the practice of quality management were also posed to the respondents. The time consuming nature of quality improvement efforts, the lack of knowledge of the management to successfully implement quality management, difficulties in implementing quality improvement efforts, and mindset barriers such as quality improvement efforts do not benefit the individual employee, and that quality management is only a passing fad, were some of the barrier statements posed to the respondents in a Likert-scale format with answers ranging from 1 (strongly disagree) to 5 (strongly agree). Performance of quality programme implementation outcomes was assessed subjectively by having four items which gauged the perception of the respondents of the resultant effect of the quality improvement efforts on the working environment, sense of belonging among the staff and better facilities for customers. These items were again presented in a Likert-scale format with responses ranging from 1 (strongly disagree) to 5 (strongly agree). The subjective assessment of quality management outcome has been used in the work of Powell (1995); Zeitz (1996); and Saraph, Benson and Schroeder (1989).

The respondents of the survey comprised frontline employees of Malaysian public hospitals, namely the medical specialists, medical officers, the nursing staff, medical assistants, pharmacists and assistant pharmacists, physiotherapists, radiographers, medical laboratory technologists, and health attendants. The Ministry of Health is one of the largest employees in Malaysia, with over 100,000 employees. Due to the size of the population and the large geographical area to be covered, cluster sampling was used in the selection of respondent hospitals. Altogether, 23 hospitals participated in the survey. The hospitals were grouped into national referral centre, state level hospitals and district level hospitals. In order to offset the loss in precision due to cluster sampling, selection of sample was stratified at both the design and field stage of the survey. In the designing stage, the number of respondents re-

quired from each designation group for each hospital was stratified according to the population of each designation. Precision was further improved during the fieldwork by stratifying the selection of respondents at the cluster level. Here, the number of respondents required for each stratum of designation from each department was proportionately stratified against the whole population of each hospital.

Once the number of respondents from each category of staff was identified for each department, systematic sampling was used to finally select the respondents from the sampling frame. For the nursing staff, the nurses' duty roster provided the sampling frame while for other categories of staff, the personnel list obtained from the Director's Office provided the sampling frame. The logos of the funding educational institution and the researcher's institution were also placed on the questionnaire as a means of communicating to the respondents that the survey was carried out by independent educational institutions, and not by the hospital itself. A total of 1,181 returned questionnaires were received from all the 23 hospitals, and of these, 68 were found to have missing data. On average, the response rate from each hospital was 90 per cent. After deleting the missing cases, the remaining 1,118 cases were analysed. Analyses of data were done using SPSS and post hoc test carried out for analysis of variance was done by the LSD method.

6. Reliability and Validity

Reliability analysis was conducted on all 60 items of the questionnaire. The instrument was found to have Cronbach's coefficient alpha of 0.96, which exceeds the acceptable lower limit of 0.7 (Hair, 1998). All except one of the items were found to have item-total correlation greater than the acceptable limit of 0.3 (Nunnally and Bernstein, 1994). The statement which states 'my hospital relies on reasonably few dependable suppliers' had an item-total correlation of 0.2536, and if deleted, would increase the alpha to 0.9576. Since the increase in alpha was marginal if this item were to be deleted, it was therefore retained for further analysis. Furthermore, this item was also deemed important to the study since supplier relationship is one of the important dimensions of quality management.

To establish the validity of the instrument, factor analysis was carried out with the extraction done by principal component analysis and oblique rotation. This is consistent with the general agreement that quality management factors are not unrelated to one another, that is, not orthogonal (Black and Porter, 1996; Zeitz, Johannesson, and Ritchie Jr., 1997). The minimum acceptable level of significance of 0.3 was applied to the factor loading, and this criterion reduced the number of items to 43 from the original 60. Eight factors were extracted which were leadership and management commitment, supplier partnership, continuous improvement, employee involvement and training, management by fact, strategic planning, teamwork, and quality assurance.

Table 2. Results of Factor Analysis

Factor	Labels	Eigenvalue	Percentage of variance	Cumulative percentage of variance
1	Leadership and management commitment	13.914	34.8	34.8
2	Supplier partnership	2.037	5.1	39.9
3	Continuous improvement	1.567	3.9	43.8
4	Employee involvement and training	1.484	3.7	47.5
5	Management by fact	1.217	3	50.5
6	Strategic planning	1.118	2.8	53.3
7	Teamwork	1.057	2.6	56
8	Quality assurance	1.001	2.5	58.5

7. Research Findings

The finding suggests that factors of quality management that are practised in Malaysian public hospitals are leadership and management commitment, supplier partnership, continuous improvement, employee involvement and training, management by fact, strategic planning, teamwork, and quality assurance. All items in the eight factors, when collapsed to form a single variable for practice of quality management, have a mean score of 3.88. This indicates that the employees of MOH hospitals agree that quality management is being practised in their organisations. A one-tailed t-test was carried out on this variable with the null hypothesis that the population mean was less than or equal to 3.0, and the alternative hypothesis that the population mean was greater than 3.0. The ρ-value was highly significant, in which case the alternative hypothesis that the population mean was greater than 3.0 was accepted. This provides statistical evidence of the practice of quality management in MOH hospitals.

Table 3. Practice of Quality Management

Factors	Mean	Std. dev.	t-value	p-value
Continuous improvement	4.33	0.47	59.64	0.00
Strategic planning	4.10	0.57	35.19	0.00
Quality assurance	4.10	0.50	40.47	0.00
Teamwork	4.07	0.53	35.18	0.00
Leadership and management commitment	3.84	0.57	19.93	0.00
Employee involvement and training	3.80	0.57	17.39	0.00
Management by fact	3.76	0.58	14.91	0.00
Supplier partnership	3.34	0.53	21.39	0.00
Practice of Quality Management	3.88	0.43	68.23	0.00

7.1 Practice of Quality Management and Level of Hospital

The hospitals were also collapsed into national referral centre, state and district level hospital and a one-way ANOVA was carried out on the practice of quality management and level of hospital. The result shows that there is significant difference in the practice of quality management between the three levels of hospitals. The difference was found to be significant between district level hospital and the national referral centre. The finding suggests that practice of quality management is higher in district level hospitals than in the national level hospital. As mentioned earlier, district level hospitals are smaller entities in comparison to the state and national level hospitals. Shortell *et al.* (1995) pointed out that larger hospitals face more difficult challenges in implementing quality improvement efforts due to the more bureaucratic nature of larger hospitals that are not conducive to the progress of quality management. Smaller hospitals, on the other hand, are more likely to have group/developmental culture that is supportive of teamwork, empowerment and risk-taking which are important attributes for successful implementation of quality management.

The finding also suggests that although the state level hospitals are smaller than the national referral centre, nevertheless, the size difference do not seem to make much impact on practice of quality management between the two levels of hospitals. The researcher also observed the vast difference in the ambience between the district and the national referral centre. The district hospitals are much less crowded than the national referral centre, and the buzz of activities are also much less. The state hospitals however, do not differ much from the national hospital as observed from the level of activity and crowd. Thus although size of organisation do seem to have an effect on practice of quality management, nonetheless the difference must be large enough in order to detect any significance difference. Table 4 shows the result of the one-way ANOVA carried out and Table 5 shows the post hoc test carried out.

Table 4. One-way ANOVA Between Level of Hospital and Practice of Quality Management

	Mean	Std. dev.	F-value	p-value
Practice of Quality Management			2.88	0.06
National referral centre	3.87	0.42		
State level hospital	3.92	0.39		
District level hospital	3.98	0.41		

Table 5. Post Hoc Test for Level of Hospital and Practice of Quality Management

	Hospital attached to	Mean difference	Std error	significance
Practice of Quality Management				
District	State	0.06	0.04	0.11
District	National	0.11	0.04	0.02
State	National	0.04	0.03	0.14

One-way ANOVA was also carried out between all the eight factors of quality management and the three levels of hospitals. The result shows that there is significant difference at 0.05 level of significance between the level of hospitals for two out of the eight factors, namely teamwork, and leadership and management commitment. However, there is no significant difference between the level of hospital and supplier partnership, continuous improvement, employee involvement and training, management by fact, strategic planning, and quality assurance. Table 6 shows the result of the ANOVA for teamwork and leadership and management commitment while Table 7 shows the post hoc test carried out.

Table 6. One-way ANOVA Between Level of Hospital and Factors of Practice of Quality Management

Factors	Mean	Std. dev.	F-value	p-value
Leadership and Management Commitment			4.46	0.01
District	3.96	0.52		
State	3.86	0.57		
National	3.78	0.58		
Teamwork			4.97	0.01
District	4.18	0.48		
State	4.05	0.54		
National	4.00	0.53		

Table 7. Post Hoc Test for Level of Hospital and Factors of Practice of Quality Management

Practice of Quality Management		Mean difference	Std. error	significance
Teamwork				
District	State	0.13	0.05	0.01
District	National	0.18	0.06	0.00
National	State	-0.05	0.04	0.23
Leadership and management commitment				
District	State	0.10	0.05	0.07
District	National	0.18	0.06	0.00
National	State	-0.08	0.04	0.05

The post hoc test indicates that there is significance difference in teamwork at 0.05 level of confidence between district and state level hospital, and between district and national level hospital. However, no significance difference is observed between state and national level hospital. The finding seems to suggest that teamwork is higher in district hospitals than in

state and national level hospitals. The finding is not to the contrary, given the fact that district hospitals are smaller in size than state and national level hospitals. As noted earlier, Shortell *et al.* (1995) had pointed out that the culture in smaller hospitals is more conducive to the development of teamwork. The district hospitals are also located in smaller regional areas compared to the state level hospitals which are located in the urban capital of each state, and the national referral centre which is located in Kuala Lumpur itself. Thus, employees of the district hospitals probably comprise local people who know each other beyond the confines of the hospital, which can be a contributory factor in facilitating teamwork in the workplace. Smaller-sized hospitals are also less bureaucratic, an attribute that also facilitates teamwork (Shortell *et al.*, 1995).

The post hoc test also indicates that there is significant difference in leadership and management commitment at 0.05 level of confidence between district and national level hospitals, and between state and national level hospitals. The finding is also significant at 0.10 level of confidence between district and state level hospitals. The finding seems to suggest that leadership and management commitment is higher in district level hospitals than in state and national level hospitals. It also suggests that this factor is higher in state level hospitals than in the national referral centre. The organisational structure of the district level hospitals is less complicated and hierarchical than the state and national level hospitals. Most of the district hospitals also do not have a post for Deputy Director. As such, Directors in the smaller district hospitals tend to be more accessible to the employees, and because of the small number of employees, the Directors also tend to be more visibly involved in quality improvement efforts. Directors in the larger state and national level hospitals on the other hand tend to be more distanced from the employees due to the larger number of employees and consequently the increased administrative layers between them.

7.2 Barriers to Implementation of Quality Management and Level of Hospital

The perception of the respondents on barriers to implementation of quality management was also elucidated between the three levels of hospitals. The finding indicates that the employees do no face much barriers in implementing quality improvement efforts in their work, as indicated by an overall mean of 2.36 for all the barrier items. This could be due to the fact that the quality improvement efforts in MOH hospitals have been carried out for quite some time, and that the staff have passed the adjustment period or overcome teething problems during the earlier stages of implementation. However, the respondents were close to agreeing that the quality improvement process is too time consuming as the mean for this item was 2.88. In comparing the perception to barriers of implementing quality management among employees of the three levels of hospitals, the finding indicates that the mean was lower for the district hospital than for the state and national level hospital, but the finding was not statistically significant, as shown in Table 8.

Table 8. One-Way ANOVA Between Level of Hospital and Barriers to Practice of Quality Management

	Mean	Std. dev.	F-value	p-value
Barriers to Practice of Quality Management			0.87	0.42
National referral centre	2.35	0.64		
State level hospital	2.37	0.59		
District level hospital	2.30	0.58		

7.3 Implementation Outcome of Quality Management and Level of Hospital

The perception of the respondents on the outcome of quality management implementation also did not indicate any significance difference between the three levels of hospitals as shown in Table 9. On the whole, the respondents were agreeable to the positive implementation outcome of the quality improvement efforts carried out which resulted in better facilities for the customers, more efficient and conducive working environment, and a sense of belonging among the staff. This was reflected in the overall mean of 4.03 for all the outcome items. However, there do not seem to be any significant difference in the outcome perception between the district, state and national level hospitals.

Table 9. One-way ANOVA Between Level of Hospital and Outcome of Quality Management Implementation

	Mean	Std. dev.	F-value	p-value
Outcome of Quality Management Implementation			0.91	0.40
National referral centre	4.00	0.58		
State level hospital	4.03	0.63		
District level hospital	4.09	0.60		

8. Conclusion and Discussion

Shortell *et al.* (1995) pointed out that implementation and outcome of quality management in health care organisations is largely a relationship between size and culture. They emphasised the greater challenges faced by larger hospitals in implementing quality improvement efforts due to the more bureaucratic cultures of the larger-sized hospitals. The smaller-sized hospitals tend to have developmental culture, which is supportive of teamwork and employee empowerment. Findings from this study support the proposition of Shortell *et al.*,

which shows that practice of quality management is significantly higher in the smaller district hospitals, than in the larger state and national level hospitals.

The finding however is contrary to the work carried out by Chow-Chua and Goh (2000), who suggested that smaller hospitals tend to lag behind the larger hospitals in implementing quality improvement programmes. The plausible explanation is that the smaller hospitals have limited resources to implement quality improvement efforts. The implementation of quality management requires serious commitment, not only in terms of leadership commitment, but also in terms of time and financial resources. Thus, the smaller hospitals may lack the resources to sustain and endure the quality improvement efforts over time. The finding from this study seems to suggest that although smaller hospitals may lack the resources, they nevertheless have the right culture that is conducive to the development of quality management, particularly with respect to teamwork, and leadership and management commitment.

An analysis on practice of quality management between district, state and national level hospitals has never been conducted in Malaysian public hospitals. It is interesting to note that although a number of state level hospitals have won national level quality awards, including twice for the Prime Minister's Quality Award, however, the finding here indicates that quality management thrives better in the smaller district hospitals. Although the regional set-up of the district hospital may be a contributory factor, the inverse relationship between organisational structure and size, and successful implementation of quality management as proposed by Shortell *et al.* (1995) cannot be ignored. As noted by Chow-Chua and Goh (2000), smaller hospitals may lack the human and financial resources to move and sustain the quality improvement efforts. This may be true to a certain extent, in that they may lack the resources to commit themselves to the extensive documentation, data collection and audit exercise required to meet the stringent award criteria, such as the Prime Minister's Quality Award. This should not, however, be taken at face value where in actual fact the smaller hospitals are more favourable ground for the successful implementation of quality management.

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