

**INDUSTRY DIMENSIONS OF KNOWLEDGE MANAGEMENT:**

**Insights from an industry study**

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## **Abstract**

*Strong forces of competition and globalisation have created awareness and an urgency to focus how an organisation controls and nurtures its intellectual capital. The knowledge concept and its management have gained currency and momentum as technology has enabled thoughts and ideas to be more easily produced and distributed. With the increased application of recent technologies such as the Internet, CRM and advanced software capabilities, it has been suggested that the time has come for a debate on a new paradigm for knowledge management. As a contribution to this debate, this paper will examine exploratory research conducted in the Australian private hospital industry with a view to better understand issues related to knowledge management from an industry perspective.*

## **What is Knowledge Management?**

In more recent times a new focus of interest has emerged post industrial times known as the ‘knowledge economy’ ( Drucker 1992). The management of knowledge has gained interest from both academics and practitioners with the realisation that knowledge holds the key to organisational growth and development. Research and publications have emerged from different disciplines reflecting the wide impact of this interest area on numerous functions and at different levels of the business. Some have conveniently attempted to organise contributions into those that have an information based approach, while others have looked more at the human side of knowledge creation, sharing and management.

It has been suggested that knowledge management as a field of study will gain considerable momentum through dialogue and debate with multiple disciplines. It has also suggested that this field of study will yield rich rewards as it moves into a new paradigm of work (Jashapara 2004).

The literature contains many definitions of knowledge management. Two are listed here in order to observe difference in perceptions of scope and emphasis;

“ .. any processes or practice of creating, acquiring, capturing, sharing and using knowledge, wherever it resides, to enhance learning and performance in organisations” (Swan et al 1999)

“...all methods, instruments and tools that in a holistic approach contribute to the promotion of core knowledge processes” (Mertins et al 2000)

## **Knowledge in Health Care**

As early as 1997, knowledge management was forecast to become a hot topic in health care (Johnson 1997). However, progress in this area has been slow. By 2001 another author observed that knowledge management was not a well known discipline in the health care industry (Malone 2001). In the UK, the National Health Service has embarked on a wide ranging program of change and reform to address pressing issues on health service delivery

with mixed results. Here it has been suggested that knowledge management concepts and practices could positively contribute to more effective reforms in the health system (Bate and Robert 2002).

Healthcare organisations are seen to be information rich and have an implicit capacity to create or access knowledge necessary for the successful delivery of their services. However, they have been slow to embrace the concepts of knowledge management or demonstrate visible knowledge assets.

More recently others recommend that a sound knowledge management infrastructure is a critical consideration as the health industry attempts to come to terms with current challenges (Desouza 2002). Health care stakeholders face increasing risk to assets and operations as there are mounting pressures in areas such as cost reduction, quality improvement, customer service, disease management and professional liability. There is a realisation of the need for a supportive management environment for the sharing of knowledge in healthcare settings (Ford and Angermeier 2004). Hence the realisation that there is a need for a focused attempt to effectively manage knowledge in healthcare organisations.

### **Industry Knowledge**

Much of the knowledge literature tends to focus at the organisational level. However, challenges of knowledge management have been seen to be the establishing and optimising the information-knowledge balance appropriate to a company or industry (Blumentritt and Johnston 1999). In recent times there have been more occasions for organisations to collaborate for mutual benefit. Some say that self sufficiency is becoming increasingly difficult in a business environment that demands strategic focus, flexibility and innovation and that many firms enter alliances with specific learning objectives (Inkpen 1996). There has also been interesting debate on the benefits of collective knowledge management through knowledge cities (Ergazakis et al 2006).

Some researchers have even proposed industry level knowledge management theory that will lead to a better understanding of how the routine day to day activities of firms and support organisations that make up an industry group can be coordinated (Johnston and Gregor 2000). Others point out that knowledge management initiatives are apt to be most successful when there is reciprocal link between knowledge and action (Smith et al 2006).

The need for company liaison at an industry level can be seen by the increasing number of strategic alliances. Some previous researchers have explored the aspect of knowledge transfer within such alliances with the view to measure knowledge movement based on the changing pattern of patent portfolios of alliance members (Mowery et al 1996). However, managers are finding it increasingly difficult to capture value from such alliances. This has prompted some

authors to propose a model that describes the knowledge resource exchange between alliance partners (Parise and Henderson 2001).

This paper will review the research findings of an industry study which probes senior manager's opinion as to the nature and implications of past changes and the nature and impact of future industry challenges. The objective will be to gain insights into knowledge areas of relevance both in the past and in the anticipated future operating environment of the Australian private hospital industry whilst gaining insights to knowledge management practice in an industry setting.

The research approach taken for this project was by exploratory qualitative depth interviews. It has been recommended that depth interviews be used where respondents may be unwilling to reveal their attitudes to industry peers and that, because of their seniority, respondents are unlikely to be available collectively. This research approach was considered to provide a fine grained approach recommended for improved understanding of nuances, detail and the forces underlying the phenomena under observation (Harrigan 1983). Depth interviews also provide the opportunity to probe particular issues to a deeper level in a one on one interview situation held in confidential circumstances (Boyce 2005). Thirty senior industry executives participated in this research project. Respondents were selected on the recommendation of industry members as to their knowledge of industry structure and dynamics over a period of about ten years. They were finally selected on their willingness to participate. One or two researchers were present at each interview usually conducted at the respondent's place of business. Data was collected via note taking and audio recording.. Interviewees were asked to respond to a list of prepared questions about the industry. Transcripts were made of each interview. Data analysis was undertaken to identify patterns and themes using the software program ENVIVO Power version, revision 4.0. A limitation of the research is the small sample of 30 senior executives, impacting on the generalisability of the results and conclusions.

Two open ended questions were asked of each senior executive interviewed as follows; a) *what were the most significant changes in this industry over the past decade*, and b) *looking forward, what do you think will be the most significant challenges and issues industry members will need to meet?*. The purpose in asking these questions was to gain insights as to the areas and types of knowledge that a) were historically important in being able to manage the changes in that period (during the previous ten years), and b) the areas and types of knowledge that will be important for industry members in meeting future challenges (next one to five years).

### **Site Industry Background**

The Australian health care system has been described as having the distinguishing characteristic of being a mixed economy comprising a tapestry of programs funded by federal and state government, private health insurance, government owned institutions, private medical practice, private for-profit and not for profit institutions, corner shop pharmacies and large publicly listed and private corporations (Foley 2000).

This review will focus on health care delivered in Australian private or non public hospitals. There were 532 private hospitals in operation during 2004-05. The number of available beds was 26,424 with total patient separations of 2.8 million (procedures conducted on each patient). About four in ten hospital patients were admitted to private hospitals in 2004-05. Equivalent full time staff at private hospitals was 48,544. Patient separations covered by private hospital insurance amounted to 78%. Total income generated at these hospitals totalled AUD\$6,624 million. Net operating margin for acute and psychiatric hospitals was 7%, a contrast to the 19% realised for free standing day hospital facilities. (ABS 2006).

The first question asked in the interviews provides a context and understanding of the current position of the Industry and hence insights into sectors of historical knowledge interest to industry stakeholders; 'What have been the most significant changes in this industry over the past decade?' Weighted responses are listed below with percentage of respondents mentioning this factor as being significant shown in brackets

- 1 *Federal Government introduction of private health insurance incentives to boost fund membership (79%)*
- 2 *Strong growth in day surgery procedures (54%)*
- 3 *For-profits industry consolidation (54%)*
- 4 *Federal Government support for private hospitals to support the stressed public hospital system (46%)*
- 5 *Role of the health insurance funds; negotiation with private hospitals (43%)*
- 6 *For-profit hospitals now recognised as an industry with growth and investment opportunities (39%)*
- 7 *For-profits: change from a 'cottage industry' to a well regarded health service provider with professional management (36%)*
- 8 *Case mix in private hospitals with a reduction in bed stay time (32%)*
- 9 *Consumer expectations regarding type/range and quality of services provided (25%)*
- 10 *Not for profits; Centralisation/corporatisation and focus on financials (21%)*

As explanation to this set of responses, the Federal Government were aware of the problems that were being caused by a public hospital system that was not able to cater for the high levels of demand for health services in the electorate. In an effort to partially satisfy this excess demand, they elected to build the incentive for the Australian people to become

members of private health insurance funds. It should be noted that private health insurance membership had fallen to an all time low ( 30 % of families were members in 1998). This is significant as 78% of patient separations in private hospitals are covered and paid for by the health insurance funds. Hence an income tax rebate scheme was introduced to encourage more people to take out private health insurance. By 2005, private health insurance family membership had increased to 43% (Perrott 2005).

This renewed support for private hospitals had a positive effect in terms of public acceptance of the quality of health services offered by private hospitals. It also encouraged investment and development in this industry. The increased attractiveness was also responsible for an ongoing series of mergers and acquisitions to the point that the for-profit sector of the industry has been rationalised down to only one main company (Ramsay Health Care) which holds about 30 % of the total private hospital market in 2005 (Low and Prior 2005).

Approximately half of the total private hospital market is held by the not-for profit sector made up of religious and charity organisations.

From each interview, insights were gained into the nature of the knowledge that was seen to be central to understanding the ten major industry changes. These knowledge domains are shown below in Table A against each of the ten most important industry changes listed above. Knowledge domains are areas of industry knowledge that are seen to be critical in gaining insights and understanding of the change impacting on the industry. In the example of the Federal Government's decision to provide tax incentives to boost private health insurance membership (refer to the first line in Table A), key knowledge domains seen to be essential in understanding the implications and opportunities presented by this change were the product pricing impact on the demand for private health insurance. In addition, private health insurance groups needed knowledge on the probable effectiveness of marketing strategies to convert the potential into new members.

#### INSERT FIGURE A

Rationale for the second question relates to members insights of forward critical knowledge areas necessary for successful industry participation and successful survival; ' *Looking forward what do you think will be the most significant challenges and issues industry members will need to meet during this time?*'. Weighted responses are listed below with percentage of respondents mentioning this factor as being significant shown in brackets.

- 1 *Issues related to hospital staff; supply/costs/mix/training* (82%)
- 2 *Technology/prostheses/drugs; returns/costs/returns* (71%)
- 3 *Handling Federal and State government; conflicting policies/control/change* (61%)
- 4 *Managing the increase in demand for health services and patient profile* (57%)
- 5 *Health insurance membership; profile/costs/model/numbers* (54%)

- 6 *The increasing cost of health services and the implications of this* (43%)
- 7 *Changing strategies for health service delivery; a community based model* (42%)
- 8 *The impact of continued industry consolidation and change* (39%)
- 9 *Negotiating with the health insurance funds and managing the gap between payout rebates and the costs of service* (36%)
- 10 *Public-private hospitals; roles/balance/cooperation* (36%)

A key issue frequently brought forward by respondents was the fact that industry operating costs have been increasing at approximately double the rate of inflation. Total private hospital expenditure increased by 7% in FY 2005, down from 8% in 2004. Expenditure increases are seen to be a result of increasing complexity of hospital procedures and the increasing cost of inputs such as supplies, drugs and prosthesis. Although wage costs are often sighted as a major cause of expenditure increases, analysis shows that wages as a percentage of total private hospital expenditure has progressively decreased from 59% in FY 1998 to 50% in 2005.

Industry income has increased at approximately the same rate as expenditure since 1999, leaving margins stable at about 5% (Low and Prior 2005). The relatively low margins and lack of margin growth may partially explain why there have been very few new private hospitals built in recent years (described as Greenfield development by Industry executives). The CEO of one major group suggested that the high capital costs of building and fitting out new hospital developments was another reason for the low number of new hospital buildings. Instead, there has been more focus on hospital extensions and refurbishment work (described as Brownfield development by Industry executives).

Private hospitals are regulated by both State and Federal governments. Both have radically different philosophical positions on how health services should be managed. Hence industry members find it difficult to respond effectively to policy changes initiated by the two levels of government. This also impacts on the role and balance of private and public hospitals in the delivery of health services to Australians. State Labour governments generally support the allocation of resources to the public hospital system. By contrast, the Federal Coalition government favour strategies to support a strong private hospital system operating in tandem with the public hospital system.

From each interview, insights were gained into the nature of the knowledge that was seen to be central to understanding the implications of the ten future industry challenges. These knowledge domains are shown below in Table B against each of the ten most important future industry challenges listed above. Knowledge domains are areas of industry knowledge that are seen to be critical in gaining insights and understanding of the challenges impacting on the industry. In the example of the challenge relating to hospital staffing costs, supply and

quality, (refer to the first line in Table B), key knowledge domains seen to be essential in understanding the implications of this challenge were related to staff recruiting, productivity and development.

INSERT TABLE B

### **Implications for industry managers**

Following on from this research and analysis of industry past changes, future challenges and relevant knowledge domains that were key to understanding the issues emerging in these two time dimensions, it will be of interest to gain insights into the knowledge management disciplines seen to be important in effectively handling such issues? Firstly, what were the key areas of management knowledge disciplines relevant to managing past changes that were listed in Table A? These are added into a third column and shown in Table C below.

INSERT TABLE C

Secondly, what will be the key management knowledge disciplines likely to be relevant in managing future challenges that were listed in Table B? These are added into a third column and shown in Table D below

INSERT TABLE D

A comparison of Tables C and D (Key Knowledge Disciplines column) demonstrates any shift in the balance of management knowledge management discipline emphasis, from past to future. It can be expected of industry members that there will be an increase in the need to have improved knowledge and capability in the areas of marketing and public relations, medical procedure strategy, finance/accounting and operations management.

This research reveals that there will be a need for a concentrated focus on profit margin management. There will be strong pressures from the health insurance funds to contain prices charged for hospital services. It is important to note that the health insurance funds covered 78% of patient separations in 2004-05 (ABS 2006). This places constraints on the prices charged for private hospital health services and therefore impacts on revenue receipts. There are also very strong pressures on the private hospital cost dimension by the key supplier groups of products and services to the industry, namely medical practitioners, nursing staff and medical equipment suppliers. Hence a critical and ongoing applied knowledge focus will be on how to run hospital operations to acceptable quality standards with less costly resources and with constant operational innovation. Another dimension of margin management will be to know how to actively manage case mix by increasing the proportion of services with higher profit margins.

Marketing knowledge and skills will become more critical as pressure builds to find future revenue growth opportunities. These opportunities will come through varying combinations of; the successful introduction of new products and services, increased penetration to high



priority market segments, or accessing new markets not currently being served. These opportunities may be in areas closely related to the existing business definition such as; diagnostics, post treatment services, enhanced in-hospital services etc. They could also include opportunities more diverse from the traditional private hospital business such as; aged care, preventative health care, 'wellness' and disease prevention services. The ability to make strategic change a reality will be dependant upon applied marketing knowledge and skills. As strategic priorities are established, detailed marketing objectives and strategies need to be formulated and implemented with cost accountability and key performance indicators used for tracking and monitoring progress.

Given the power distribution of key stakeholders in the industry, a key ongoing management knowledge and skill area will be the effective management of relationships with key supplier groups such as the medical practitioners, health insurance funds and equipment suppliers. Ongoing and proactive relationship planning and actions will be fundamental here so that issues are resolved in a timely and cost effective manner and to ensure that crisis or ad hoc solutions are avoided as much as possible.

Future research projects will look to quantify some of the dimensions uncovered in this exploratory research project to better understand how representative issues are that were mentioned by the respondents in this research.

### **Conclusions**

Individual companies are primarily concerned with optimising knowledge management strategies in their own organisations. Hence the question arises whether there is a need for an independent entity to focus on the knowledge interests at the industry level. An industry body such as an industry Association could play an important role in consolidating collective knowledge of the industry members. This knowledge could then be codified and transferred to relevant bodies outside the industry such as government, regulators and suppliers thus building industry image, understanding and credibility. Within the industry, this Association body could also act as a catalyst in transferring agreed knowledge between industry members. The industry being researched in this paper has created an effective industry body in the form of the Australian Private Hospitals Association. Particular activities involving the dissemination and leverage of collective industry knowledge include; active public relations, commissioned research, submissions to public hearings, liaison with important industry suppliers. Here knowledge of the private hospitals industry is consolidated and made available in order to build awareness and standing with external groups. Examples of such activities include liaison with the nurses association regarding nurse education and future supply issues, and prostheses manufactures regarding design, cost and availability issues.

Industry knowledge is also used to inform government and regulators (Australian Private Hospitals Association 2006).

### **References**

Australian Bureau of Statistics (ABS), 2006, '4390.0, Private Hospitals, Australia, 2004-05', Release date July 14, 2006, Canberra

Australian Private Hospitals Association Annual Report, 2005-06, Canberra, Australia

Bate, S. P., and Robert, G, 2002, 'Knowledge Management and communities of Practice in the Private Sector: Lessons for Modernizing the National Health Service in England and Wales', *Public Administration*, 80(4), 643-663.

Boyce J, 2005, *Marketing Research*, McGraw Hill, Boston

Blumentritt R and Johnston R 1999, Towards a Strategy for Knowledge Management, *Technology Analysis and Strategic Management*, Vol 11, No 3, September 1, 287-300

Desouza, K. C, 2002, Knowledge Management in hospitals: A Process Oriented and Staged Look at Managerial Issues, *International Journal of Healthcare Technology and Management*, 4(6), 478-497.

Drew, S, 1999, Building Knowledge Management into Strategy: Making Sense of a New Perspective, *Long Range Planning*, 32 (1), 130-136.

Drucker P, 1992, The New Society of Organisations, *Harvard Business Review*, September/October, 95-105

Ergazikis K, Metaxiotis K and Psarras J, 2006, A Coherent Framework for Building Successful KCs in the Context of the Knowledge –Based Economy, *Knowledge Management Research and Practice*, Vol 4, 46-59.

Foley M, 2000, "The Changing Private-Public Balance' in Health Reform in Australia and New Zealand, Ed Abby L Bloom, Oxford University Press, South Melbourne (99-114)

Ford R and Angermeier I, 2004, Managing the Knowledge Environment : A Case Study from Healthcare, *Knowledge Management Research and Practice*, Vol 2,, 137-146.

Harrigan, K. R. (1983), Research Methodologies for Contingency Approaches to Business Strategy, *Academy of Management Review*, 8(3), 398-405.

Hassard, J. and Kelemen, M, 2002, Production and Consumption in Organisational Knowledge: The Case of the 'Paradigms Debate", *Organisation*, 9 (2), 331-355.

Inkpen A C 1996, Creating Knowledge Through Collaboration, *California Management Review*, Vol 39, Iss 1, 123-140

Johnson, D. E. L, 1997, Making Knowledge Management a Priority, *Health Care Strategic Management*, 15(4), 2-4.

Johnston R B and Gregor S 2000, A Theory of Industry- Level Activity for Understanding the Adoption of Interorganisational Systems, *European Journal of Information Management*, Vol 9, No 44, 243- 251

Low D A and Prior M, 2005, Private Hospital Operators, Deutsche Bank Industry Update, Asia Pacific Australia, July 19, 2005

Malone, S. M, 2001, 'Knowledge Management: White knight or White Elephant?', *Topics in Health Information Management*, 21(3), 33-44.

Mertins K, Heisig P and Vorbeck J, 2000, "Knowledge Management: Best Practices in Europe", Springer-Verlag, New York

Mowery D C, Oxley J E, Silverman B S, Grant R M and Spender J C, 1996, Strategic Alliances and Interfirm Knowledge Transfer, *Strategic Management Journal*, Vol 17, Winter, 77-91

Parise S and Henderson J C, 2001, Knowledge Resource Exchange in Strategic Alliances, *IBM Systems Journal: Knowledge Management*, Vol 40, No 4

Perrott B E, 2005, Dynamics in the Australian Private Hospital Industry, UTS Working Paper Series 4/05, Sydney

Smith H A, McKeen J D and Singh S, 2006, Making Knowledge Work: Five Principles for Action-Oriented Knowledge Management, *Knowledge Management Research and Practise*. Vol 4, Iss 2, P 116

Swan J, Scarborough H and Preston J, 1999, Knowledge Management- the next fad to forget people?", *Proceedings of the 7<sup>th</sup> European Conference on Information Systems*, Copenhagen

**Table A**

<b>INDUSTRY CHANGE AREAS</b>	<b>KEY KNOWLEDGE DOMAINS</b>
<i>Federal Government introduction of private health insurance incentives to boost fund membership</i>	Product pricing impact on demand/ Demand functions by market sector/ Impact of marketing strategies
<i>Strong growth in day surgery procedures</i>	New medical techniques/ New technologies and procedures
<i>For-profits industry consolidation</i>	Corporate financial strategy/leverage/structure
<i>Federal Government support for private hospitals to support the stressed public hospital system</i>	Industry dynamics/industry boundaries/ Inter-industry issues Government relationship management
<i>Role of the health insurance funds and aggressive</i>	Health insurance economics/

<i>negotiation with private hospitals</i>	case mix and costings
<i>For-profit hospitals now recognised as an industry with growth and investment opportunities</i>	Professional management disciplines Industry relationship management
<i>For-profits: change from a 'cottage industry' to a well regarded health service provider with professional management</i>	Applied knowledge of professional medical and management standards
<i>Case mix in private hospitals with a reduction in bed stay time</i>	Yield management and its application to proactive case mix management
<i>Consumer expectations regarding type/range and quality of services provided</i>	Consumer needs and preferences for private hospital services
<i>Not for profits; Centralisation/corporatisation and focus on financials</i>	Commercial management disciplines/techniques

**Table B**

<b>FUTURE INDUSTRY CHALLENGE</b>	<b>KEY KNOWLEDGE DOMAINS</b>
<i>Issues related to hospital staff; supply/costs/mix/training</i>	Staff recruiting/productivity/development
<i>Technology/prostheses/drugs; returns/costs/returns</i>	Emerging technologies/cost issues/commercialisation issues
<i>Handling Federal and State government; conflicting policies/control/</i>	Federal-state political agendas and emerging health strategies
<i>Managing the increase in demand for health services and changing patient profile</i>	Demand functions for key private hospital services
<i>Health insurance membership; profile/costs/model/numbers</i>	Consumer preferences and needs Product pricing and demand models
<i>The increasing cost of health services and the implications of this</i>	Cost of service delivery and effective containment strategies
<i>Changing strategies for health service delivery; a community based</i>	Alternative service models and their impact on demand and operations
<i>The impact of continued industry consolidation and change</i>	Understanding of the impact of further industry consolidation and government industry control strategies
<i>Negotiating with the health insurance funds and managing the gap between payout rebates and the costs of service</i>	Health insurance industry thinking and alternative pricing/revenue strategies Effective negotiation strategies
<i>Public-private hospitals;</i>	Private and public hospital current issues

<i>roles/balance/cooperation</i>	Impact of various changes to private-public strategies
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**Table C**

<b>INDUSTRY CHANGE AREAS</b>	<b>KEY KNOWLEDGE DOMAINS</b>	<b>KEY KNOWLEDGE DISCIPLINES</b>
<i>Federal Government introduction of private health insurance incentives to boost fund membership</i>	Product pricing impact on demand/ Demand functions by market sector/ Impact of marketing strategies	<b>Marketing /public relations</b>
<i>Strong growth in day surgery procedures</i>	New medical techniques/ New technologies and procedures	<b>Operations/medical procedure strategy/administration</b>
<i>For-profits industry consolidation</i>	Corporate financial strategy/leverage/structure	<b>Finance and accounting</b>
<i>Federal Government support for private hospitals to support the stressed public hospital system</i>	Industry dynamics/industry boundaries/ Inter-industry issues Government relationship management	<b>Corporate strategy</b>
<i>Role of the health insurance funds and aggressive negotiation with private hospitals</i>	Health insurance economics/ case mix and costings	<b>Finance and accounting</b>
<i>For-profit hospitals now recognised as an industry with growth and investment opportunities</i>	Professional management disciplines Industry relationship management	<b>Corporate strategy</b>
<i>For-profits: change from a 'cottage industry' to a well regarded health service provider with professional management</i>	Applied knowledge of professional medical and management standards	<b>Human resource management/corporate strategy</b>
<i>Case mix in private hospitals</i>	Yield management and its	<b>Medical procedure</b>

<i>with a reduction in bed stay time</i>	application to proactive case mix management	<b>strategy</b>
<i>Consumer expectations regarding type/range and quality of services provided</i>	Consumer needs and preferences for private hospital services	<b>Marketing /public relations</b>
<i>Not for profits; Centralisation/corporatisation and focus on financials</i>	Commercial management disciplines/techniques	<b>Human resource management/corporate strategy</b>

**Table D**

<b>FUTURE INDUSTRY CHALLENGE</b>	<b>KEY KNOWLEDGE DOMAINS</b>	<b>KEY KNOWLEDGE DISCIPLINES</b>
<i>Issues related to hospital staff; supply/costs/mix/training</i>	Staff recruiting/productivity/development	<b>Human resource management</b>
<i>Technology/prostheses/drugs; returns/costs/returns</i>	Emerging technologies/cost issues/commercialisation issues	<b>Medical procedure strategy</b>
<i>Handling Federal and State government; conflicting policies/control/</i>	Federal-state political agendas and emerging health strategies	<b>Corporate strategy</b>
<i>Managing the increase in demand for health services and changing patient profile</i>	Demand functions for key private hospital services	<b>Marketing and public relations/ medical procedure strategy</b>
<i>Health insurance membership; profile/costs/model/numbers</i>	Consumer preferences and needs Product pricing and demand models	<b>Marketing and public relations/ finance and accounting</b>
<i>The increasing cost of health services and the implications of this</i>	Cost of service delivery and effective containment strategies	<b>Medical procedure strategy/operations management/ finance and accounting</b>
<i>Changing strategies for health service delivery; a community based</i>	Alternative service models and their impact on demand and operations	<b>Medical procedure strategy/operations management/ finance and accounting/</b>

		<b>medical procedure strategy</b>
<i>The impact of continued industry consolidation and change</i>	Understanding of the impact of further industry consolidation and government industry control strategies	<b>Corporate strategy</b>
<i>Negotiating with the health insurance funds and managing the gap between payout rebates and the costs of service</i>	Health insurance industry thinking and alternative pricing/revenue strategies Effective negotiation strategies	<b>Corporate strategy/ Marketing and public relations</b>
<i>Public-private hospitals; roles/balance/cooperation</i>	Private and public hospital current issues Impact of various changes to private-public strategies	<b>Corporate strategy</b>