

The strategy of casemix

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Abstract

While the political debate rages over whether casemix brings economic benefits for Australian health care, managers are observing a pragmatic change to their business and some are using casemix to understand and manage their business better. Casemix is a useful tool in this environment of increasing management accountability and process re-engineering.

This article reviews casemix from a process innovation perspective; comments on its real use for strategic health care management; and suggests a simple matrix used by St John of God hospitals throughout Australia to implement and measure progress towards quality casemix-managed hospitals. The management motivation for this matrix was to promote hospital resourcing decisions supplemented by casemix information.

Casemix and the innovation ‘fanatics’

Many writers making a living from business strategy have talked about the fundamental link between innovation ‘fanatics’ and the eventual success of product and process innovation.

They are often described as ‘possessed’ or ‘obsessed’, working towards their objectives to the exclusion even of family or personal relationships...And their commitment allows them to persevere despite the frustrations, ambiguities and setbacks that always accompany major innovations (Quinn 1985, p 74).

Why has casemix captured so many ‘converts’ and yet taken so long to really affect Australian health care management? The process of change has been established at some larger teaching hospitals for over four years.

Frontini and Richardson (1984, p 41) discuss organisational characteristics that encourage or inhibit strategic innovations. Hierarchical,

mature, divisional organisations are suggested as impeding such innovations. Do these traits map to the stereotype of a major Australian teaching hospital?

Perhaps casemix as a process innovation has been slowed because of the nature of the organisations dealing with acute inpatients in Australia. However, the last two years have changed this picture dramatically. Funding formulas, implementation experiences and flexible computing decision support tools are now a major part of Australian health care management. Casemix gurus, or people with the right blend of skills, are recruited for high prices. The Australian casemix community is no longer labelled as fanatical or 'health initiative groupies'.

Casemix—chasing the real business gains

How can casemix information be converted to sustainable competitive advantage?

Some casemix writers forget the early Australian vision of casemix in the rush to give implementation advice. It was more than just another health initiative because it promised the Eagar and Innes 'common language' (1992), a tool for a wide diversity of managers to talk about their business. It represents a pragmatic change in the integration of financial and clinical data in order for health care managers to make better resource decisions.

Benchmarking standards are a core element of any casemix system. The statistical definitions (Volume 2) developed by Eagar and Innes were vital to the growth of diagnosis related groups because they added confidence to the uniformity of data collections. These benchmarks must be able to be understood by all hospital managers. The Victorian Department of Health and Community Services uses the WEIS or the Weighted Equivalent Inlier Separation. Although this is a sound economic adjustment, many health managers resisted the measure because of its unwieldy name. Benchmarked diagnosis related group information must appeal to all managers, not just financial managers.

Although it could be argued that some Australian hospitals already had strong links between clinical and financial decisions, casemix has forced the majority to establish these links. Doctors are now called to understand clinical costing (Hickie 1994, p 6) and accountants must look at management information as well as the more traditional general ledger statistics and ratios.

Many of the educational materials on Australian casemix identify its benefits as:

- understanding of resource utilisation patterns
- total cost management through activity-based costing
- identification and management of the clinical activities cost drivers
- targeted service provision and market share analysis.

Honda motorcycles gained entry to the massive United States market in the 1960s because they were cheap but superior products. Honda's manufacturing fixed asset commitment was more than twice its competitors. Honda captured and maintained 63 per cent of the market share (\$77 million sales per year) because it targeted segments from a new perspective, seeing the leisure riders in the general public as essential business (Quinn, Mintzberg & James 1988, pp 104–13). Casemix sees patients differently. Although patient needs are far more complex than those of motorcycle riders, casemix is a *new* way to explain them to non-clinical managers. More effective services can be offered once patient needs and the related costs are understood across a hospital. In this sense casemix is a large part of the paradigm shift towards improved resource utilisation in Australian health care.

Solid management accounting theories described and used in businesses throughout the world since the 1960s have finally hit Australian health care. The casemix manager must focus on cost drivers of clinical activity. Horngren and Foster (1991, p 59) explain the fundamentals of the activity-based costing scenario. Many hospitals and health care groups have paid tens of thousands of consulting dollars to have this theory interpreted into a health language. Only the most experienced cost accountants can easily make the transition to the idiosyncrasies of the health industry.

Australian hospital activity-based casemix information is becoming useful in daily planning and control. Trends in clinical budgeting and care pathways are examples of this application.

Constraints to achieving competitive advantage through casemix lie in ignoring the need for a clinical balance in the casemix implementation. Aggregated clinical data will be misinterpreted if some variances are not accepted as a natural part of hospital activities. Investing heavily in computer technology, without the necessary people, is dangerous.

In order to achieve these uses of casemix information, the infrastructure of the hospital must generate information that managers can trust. Quality elements of timeliness, accuracy and relevancy are central. Reports that contain quality data will indicate hospital activities that, if changed, would provide far better resource stewardship and cost management.

A strategic tool

A good management strategy needs simple explanations of complex ideas and must be action-focused. The challenge of moving to casemix action at a hospital level has taken an enormous amount of education time. Early priorities focused on telling managers what casemix was and very little about how to use it.

Casemix demands cross-functional links within a hospital and a successful strategy must reflect this. Hospitals can be classified as having principally a 'non-routine technology'. Management texts suggest that matrix structures, or at least those with strong horizontal relationships, best support an environment with rich information, frequent face-to-face group and unscheduled meetings (Daft 1989, p 243).

These interactions are found in most hospitals and so the need for lateral links across hospital departments is obvious. Casemix meetings should reflect this requirement.

One way of interpreting this lateral organisational change is to establish strategic business units in large hospitals. This has become very popular in some Australian States. A private university in Bakerstown, California, became well known to management students because of its work in turning its colleges into profit centres to achieve a more effective matrix structure (Daft 1989, pp 322–3). The outcome was to expand the range of academic offerings and increase the size of the university. They did experience problems in colleges which had no geographic competition because there was no incentive to follow market forces. The Australian move towards clinical units is strategically correct but may need to be tempered by an understanding that hospitals are not just driven by monetary values.

How can we turn all this information about casemix, its management philosophy and strategic theory into something workable to support the broader hospital objectives?

Below is a simple matrix that may help to implement the casemix infrastructure, educate managers about what is required, and monitor progress. The objectives of this matrix for the St John of God Health Care System were to:

- review patient needs in using a logical framework
- improve resource decision-making
- make the changes necessary using a quality-focused management tool.

Figure 1 shows the St John of God Casemix Matrix. Hospitals A to C represent the varying stages of casemix progress found in implementing and using casemix management. The next section covers relevant comments concerning the components of the matrix.

The St John of God Casemix Matrix

This matrix was developed in 1994 for the St John of God Health Care System, a group of Australian not-for-profit private hospitals. The executives of the St John of God Health Care System already had a strong resource commitment to casemix for improving hospital management and had participated in a number of the early Australian casemix studies.

Australia-wide research was conducted in November and December 1993. This research was based on the belief that while the uses of casemix information and funding formulas in the private sector may be different from those in the public sector, the strategy of implementation is very similar. In fact, the casemix benchmarks for comparisons should be hospitals using casemix as an operational and strategic management tool, not the traditional public or private distinction.

Most of the implementation literature focuses on actions associated with the first three critical success factors of the matrix:

- adequate clinical and laboratory documentation
- an integrated health information system
- quality coding (Eagar & Hindle 1994, chapters 1–9).

These three items will be briefly discussed.

Bureaucratic enforcement of the completion of discharge summaries has not worked, especially in private health care. A marketing methodology of identifying how casemix can help clinical practice has proved more successful.

Figure 1: The St John of God Casemix Matrix

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Hospitals	Critical success factors							Quality casemix information	Utilised casemix information
	Adequate clinical and laboratory documentation	An integrated health information system (HIS)	Quality coding	Measuring clinical activities	Flexible end-user computing (EUC)	Product costing	Educated (and interested) staff		
Hospital A	30% discharge summary compliance	Manual completion of activity statistics	Health authority AN-DRG grouping	Patient dependency	Standardised reports	A once-off project	Statewide education events	No reconciliation of DRG monthly activity	6-monthly DRG Reports
Hospital B	50–70% discharge summary compliance	PMI/ATD but no morbidity coding	Stand-alone AN-DRG grouping	A specialty -based clinical activity study	Some ad-hoc reports	A recent COSMOS study	Nurse education sessions	Clinical activity was reconciled once	DRG monthly monitoring
Hospital C	85% discharge summary compliance	Integrated PMI/ATD and morbidity coding	On-line medical record-based AN-DRG grouping	Top 10 DRG care pathways	On-line easy queries Trained managers	An integrated system for utilisation review	An education matrix	Monthly quality data checks	Clinical costing care pathways management

For each box:

- Action and date
- X Project milestone and completion date
- *** Acceptable level reached
- Standard of excellence (Australia-wide)

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Mark Britt discusses his experience in educating doctors in a group of three New South Wales public hospitals (Eagar & Hindle 1994, chapter 2). There are an interesting series of stages that clinical professionals move through on the way to understanding diagnosis related groups.

While doctors who are invited to casemix education sessions enjoy the opportunity to criticise the bureaucratic mindset, most come away realising that without their help in documentation, hospitals are at risk in the medium term because of the use of poor quality casemix information for funding. Many also see how they could use the new information generated in professional accreditation processes. A process of clinical ownership begins with doctors reviewing simple data and requesting more specific reports. Maintaining aggregated data is a serious barrier to end-user acceptance.

There are few integrated health information systems which meet the requirements for hospital utilisation management. While the patient systems may be satisfactory, there is no consideration given to patient level or linked data. Redesign based on a patient model is possible, but will only occur when clients demand and pay for the changes to be made.

The need for quality coding is now widely understood. The National Coding Centre is a tangible symbol of this direction and ongoing education for morbidity coders is a well-recognised budget item.

There are, however, a number of remaining mysteries such as product costing, patient dependency, casemix management reports, data quality and reconciliation processes. Outside the acute arena the work has only just begun in areas like psychiatry, rehabilitation and ambulatory care.

Australian health care as an industry has not widely supported the profession of management accounting. Product costing based on activity-based costing principles and employing casemix information is reversing this fact.

Hindle has taken the term 'product costing' into the health care management mainstream. He defines it as 'deciding the set of products of interest, and then calculating the costs of their production' (1994, p 2).

As a result of Hindle's passion for this topic, a wide range of practical literature now exists for managers wanting to try product costing exercises. The relative values of intermediate products, for example, the operating room cost weights, can now be predicted based on Australian experience.

Utilisation review can be greatly improved by purchasing a clinical costing computer system. But unless the process is understood, owned and

used by hospital managers, the large capital outlay will not show a return (Wilson & Dowling 1994, p 264). Interfaces with actual (not modelled) data will expose information quality issues. These must be addressed by an ongoing resource commitment. Having met these requirements, hospitals will find that the effects of clinical cost drivers can be predicted and that powerful resource utilisation information is readily available.

The Quality Casemix Information matrix segment was created to reinforce the need for a strong infrastructure. This matrix involves an evaluation of casemix information. Practical experience demonstrates that typically the first casemix data will be wrong—for reasons relating to the critical success factors of the matrix. Hospital casemix teams must reassess the information before making clinical or financial decisions. Quality data must precede quality reporting structures!

Many of the early converts now know that the success of casemix rests upon whether there is continuing innovation in the use of the information. If the process returns to monthly paper computer reports, there will be little or no operational impact. However, if industry-standard, interactive computing systems are available, managers will tend to ask a whole range of 'what-if' analyses before making small and large decisions. These utilisation questions are difficult to answer because of the design of traditional information systems.

Westpac, when faced with major industry restructuring in the mid-1980s, successfully turned to extensive segmentation of its customers' profiles and needs (Brown 1990, pp 127–43). Is the trend towards Australian public sector casemix contracting and managed care so different? Health care managers must understand their 'casemix product' at a clinically meaningful level.

Does the model work?

A useful strategic management model may take two or three years to refine before it can be successfully evaluated. Prior to this time, managers must look for evaluation evidence in practical experience.

The St John of God Matrix has been implemented in all St John of God hospitals throughout Australia that treat acute patients. Casemix management teams have been educated using the model, progress has been measured by chief executive officers against the model, and action plans have been developed by customising the model. The real changes in

hospital management have been to affect the major resourcing decisions by providing supplemental casemix reports (clinical, costing and marketing).

The higher the percentage of tasks completed in each box, the more likely the hospital is to have 'utilised casemix information'. Clinical and financial ownership is promoted when tasks needed to complete each critical success factor are reviewed through a multidisciplinary committee structure. Although examples of these actions are somewhat sensitive, the obvious questions of viability, planning and service improvements have been explored. A future paper is planned to more fully describe these utilisation examples.

While it is impossible to predict the mathematical relationships between each critical success factor and the desired outcome, practical experience supports the model's qualitative validity.

How robust is the St John of God Casemix Matrix in areas outside acute care? Time and exposure will tell. The St John of God Health Care System continues, like many other organisations, to expand the boundaries of casemix.

Psychiatric casemix evaluations have shown that while discharge summary information is not a problem, the end-use of summarised information is less developed than in acute health. The challenge is to stabilise the strategy. Although the casemix classification systems and the importance of each critical success factor will change, the management techniques will remain the same.

Conclusion

Strategy, specifically casemix strategy, will only succeed when the objectives can be fixed and the management processes to achieve the objectives are simple.

Health management will never be purely about making money. It will also be about ensuring viability through reinvestment in technology and people to support the health needs of a community. Strategy for health care management therefore will always be changing. Those ideas which focus on providing information to understand people's health needs will survive beyond a fad phase to become embedded in health care management education. How many Australian health care management courses now do not have a casemix component?

The St John of God Casemix Matrix has proved to be a useful framework for implementing infrastructure changes and is easily explained to hospital managers. The matrix has succeeded in its objectives to promote the use of quality casemix information in hospital resource decisions, both within St John of God hospitals and other private hospitals across Australia.

In future years hospitals will be evaluated on what uses they are making of casemix information, not on whether they have a casemix management system. Innovative hospitals will be innovative casemix users!

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