Performance monitoring in the Victorian health care system: an exploratory study

Sandra G Leggat, Timothy Bartram and Pauline Stanton

Abstract

This paper reports on an exploratory study which aims to improve our understanding of how the Chief Executive Officers of Victorian health services monitor strategic and operational performance in their organisations. As a component of a large scale human resource management study, we surveyed 130 Chief Executive Officers (CEOs) of Victorian health sector agencies. Our findings suggest that performance monitoring was more advanced among the larger Victorian health sector organisations, and that there were areas for improvement throughout the system. Overall, the CEOs reported limited use of performance indicators related to service and clinical perspectives, with financial and volume indicators most widely used. There was little evidence that these organisations had processes in place (such as benchmarking and linking required outcomes to staff performance management) to understand the implications of the performance information and translate them into management action. The findings suggest that the sector requires technical expertise and support in data reporting, benchmarking and quality improvement in order to improve performance monitoring and ensure its relevance to strategic control, but further study is required.

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What is known about the topic?

There is strong evidence that effective performance monitoring is a necessary prerequisite to improving organisational performance.

What does this study add?

Victorian health care organisations rely largely on traditional financial and service volume data in monitoring performance. Although there is strong research evidence of the importance of benchmarking, and of linking organisational performance requirements with staff performance management, the participants in this study had few processes in place to understand the implications of the performance information or translate them into management action.

What are the implications?

It is unlikely that health care managers currently have the information they require to successfully monitor organisational performance. Managers and policymakers need to focus on improving performance monitoring, including improving access to data and indicators that provide a more balanced view of performance and processes for effective linkage to people management.

Sandra G Leggat, MHSc, MBA, PhD, Senior Lecturer
School of Public Health, La Trobe University, Melbourne, VIC.

Timothy Bartram, MCom(Hons), PhD, Lecturer
School of Business, La Trobe University, Melbourne, VIC.

Pauline Stanton, MSc, PhD, Associate Professor
Graduate School of Management, La Trobe University, Melbourne, VIC.

Correspondence: Dr Timothy Bartram, School of Business, La Trobe University, Victoria 3086, Melbourne, VIC 3086.
t.bartram@latrobe.edu.au

STRATEGIC DIRECTION, sound operations and effective performance monitoring are required to ensure high quality, safe and financially sustainable health care. Yet, in all industries we have seen the difficulty decision makers have in detecting poor performance early enough to respond effectively.[1] In the health sector there are many examples of health services that appear to be operating effectively, but which experience financial, quality or other crises in a relatively short time frame. In the absence of agreed national or statewide performance monitoring frameworks, many health services collect a vast amount of information, but appear to be unable to detect looming issues. This lack of strategic understanding and response may result because the organisation has not defined and does not collect the

correct information (possibly because there is no agreement on what comprises the correct information) or does not have an effective system for translating this feedback into appropriate action.[2-4]

The strong positive link between monitoring performance and improving organisational performance has been well documented.[2,5,6] Performance information is important to improving organisational effectiveness, ensuring accountability, monitoring management and fostering collaboration within the sector.[7] The experience of health service organisations in monitoring performance has suggested the need to consider a range of performance indicators including financial indicators; service indicators that focus on satisfaction with service delivery; and clinical indicators that evaluate the processes of care and/or the resulting patient outcomes.[8] These indicators can be realised and acted upon through regular reporting to and monitoring by decision-making bodies and key stakeholders,[9] through benchmarking with like organisations[10] and through making links to staff performance.[11,12]

This exploratory study was conducted to improve our understanding of how the Chief Executive Officers of health services in Victoria think about performance and the methods they use to monitor strategic and operational organisational performance. As most health care organisations base performance management on measured indicators, this paper has broad implications for the health sector.

Methodology

As a component of a large scale human resource management study, we surveyed the Chief Executive Officers (CEOs) of Victorian health sector agencies. One hundred and thirty questionnaires were mailed to the CEOs of metropolitan health services ($n = 12$), regional health services ($n = 15$), district health services ($n = 61$) and community health services ($n = 42$). Sixty-four completed questionnaires (49%) were returned from the CEOs, categorised as follows: metropolitan health services (8; 67% response rate), regional health services (7; 46%), district health services (28; 46%) and community health services (21; 50%). Analysis of the characteristics of the respondent and non-respondent organisations confirmed that there were no discernable differences between the organisations that responded and those that did not.

A combination of open-ended and structured questions was used to explore how the CEOs monitored performance within their organisation, as well as how they judged the performance of peer organisations. The structured questions were directed at the use of indicators that would most commonly be used to monitor the financial perspective (such as financial results and service volumes), service (such as wait lists and satisfaction ratings) and clinical perspectives (such as adverse events, clinical outcomes and functional health status).

Results

Use of performance indicators

The respondents were requested to complete a table that outlined possible performance indicators (listed in Box 1) and indicate how these indicators were used in monitoring performance in the organisation. The use options included:

- Discussion regularly at senior/executive management meetings
- Report to the Board
- Report to funding agencies
- Publicly available community report
- Benchmark with other organisations
- Visible link to staff performance management.

Overall, the CEOs reported a strong focus on financial, volume, and patient/client satisfaction indicators, and indicators related to accreditation. They focused much less attention on indicators related to the outcomes of health care processes, such as adverse events, clinical outcomes, functional status of patients/clients and community reintegration of patients/clients. There was little emphasis on tracking indicators related to partnerships and care integration even though many of the organisations stress these aspects as important strategic objectives.

For the most part the performance indicators were discussed at senior/executive management meetings and were reported to the Board of Directors. There was substantial variation in reporting to funding agencies, probably as a result of the reporting requirements of the Department of Human Services, the funder of most of these agencies. Overall, less than half of the respondents reported that they benchmarked their performance on any of these indicators with other organisations or based the organisational staff performance management processes on them. Notably, despite the importance of achieving financial and volume targets in the Victorian system, less than half of the CEO respondents indicated that they linked these indicators with internal performance management processes.

Use of benchmarking

As expected, there were differences between different types of organisations in their use of benchmarking. We investigated the differences between CEO responses for metropolitan health services (MHS), regional and district hospitals and community health services (CHS). The metropolitan health services and regional health services tend to be larger and may have more resources to support their performance monitoring processes. As illustrated in Box 2, the CEOs of the MHS reported a significantly greater level of benchmarking than the other organisational types for financial results ($P < 0.010$), wait lists ($P < 0.001$), patient/client satisfaction ($P < 0.001$) and clinical outcomes ($P < 0.001$).

1 Reported use of performance indicators in order of frequency

	Senior management		Board report		Funder report		Community report		Benchmark		PM link		Total	
Type of indicator	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	Av %
Financial results	60	93.8	64	100	62	96.9	52	81.3	29	45.3	27	42.2	294	76.6
Accreditation	62	96.9	64	100	53	82.8	45	70.3	27	42.2	27	42.2	278	72.4
Actual volumes	59	92.2	58	90.6	56	87.5	36	56.3	20	31.3	27	42.2	256	66.7
Approved volumes	59	92.2	58	90.6	59	92.2	34	53.1	20	31.3	24	37.5	254	66.2
Patient satisfaction	59	92.2	55	85.9	28	43.8	30	46.9	28	43.8	15	23.4	215	56.0
Adverse events	54	84.4	50	78.1	38	59.4	20	31.3	14	21.9	10	15.6	186	48.5
Wait lists	44	68.8	36	56.3	34	53.1	16	25.0	16	25.0	11	17.2	157	40.9
Staff satisfaction	51	79.7	43	67.2	6	9.4	12	18.8	17	26.6	18	28.1	147	38.8
Clinical outcomes	45	70.3	36	56.3	20	31.3	20	31.3	11	17.2	10	15.6	142	37.0
Care integration	41	64.1	25	39.1	16	25.0	14	21.9	5	7.8	9	14.1	110	28.7
Medical staff satisfaction	25	39.1	22	34.4	1	1.6	2	3.1	7	10.9	10	15.6	67	17.5
Community integration	23	35.9	16	25.0	10	15.6	7	10.9	3	4.7	5	7.8	64	16.7
Functional status	25	39.1	13	20.3	9	14.1	5	7.8	5	7.8	5	7.8	62	16.2
Total/Average %	607	73.0	540	64.9	392	47.1	293	35.2	202	24.3	198	23.8	2232	44.7

PM = performance management

2 Reported benchmarking of performance indicators

	Metropolitan health services		Regional hospitals		District hospitals		Community health services	
Type of indicator	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**
Financial results	7	87.5	5	71.4	13	46.4	4	19.1
Actual volume	5	62.5	2	28.6	3	10.7	4	19.1
Wait list	6	75.0	2	28.6	4	14.3	4	19.1
Staff satisfaction	3	37.5	3	42.9	3	10.7	2	7.1
Patient satisfaction	8	100.0	4	57.1	14	50.0	2	9.5
Adverse events	4	50.0	2	28.6	7	25.0	1	4.8
Clinical outcomes	5	62.5	2	28.6	4	14.3	0	0
Functional status	2	25.0	1	14.3	2	7.1	0	0
Community integration	1	12.5	0	0	2	7.1	0	0
Care integration	2	25.0	0	0	2	7.1	1	4.8
Total/Average %	43	53.8	21	30.0	54	19.3	18	8.3

Linking performance indicators to staff performance management

As shown in Box 3, all of the CEOs were less likely to report that the performance measures had a visible link with the organisational staff performance management. On average, just over 40% of the MHS CEOs and fewer than 30% of the CEOs of the other organisational categories reported such linking. The MHS CEOs reported linking the financial results to the greatest extent (88%), with some linking of the service indicators, but less emphasis on linking clinical indicators. In contrast, the regional (71%) and district hospitals (100%) and CHS (71%) reported the greatest focus on linking patient satisfaction measures, as compared with only 38% of the MHS CEOs.

Monitoring organisational performance

Open-ended survey questions (that allowed more than one response) asked the CEOs to describe how they tracked the achievement of their organisation's strategic plan; to identify other methods or indicators they used to track their organisation's operational performance and the criteria they used to judge the performance of peer organisations. The CEOs identified three main approaches to tracking the achievement of their organisation's strategic plan: reporting on key performance indicators (KPIs) (35%), review by Board and/or CEO (30%), and organisational plans linked to the strategic plan (23%).

Use of KPIs was also the most frequently reported method for tracking operational performance (53%; $n = 33$). For the most part the KPIs were focused on financial, volume, patient satisfaction and accreditation measures. The other reported methods of tracking operational performance included patient/client and staff surveys (15%; $n = 9$), benchmarking (13%; $n = 8$), continuous quality improvement (6%; $n = 4$), developing and monitoring action plans (3%; $n = 2$), external reviews (3%; $n = 2$), performance appraisal (3%; $n = 2$) and community participation (2%; $n = 1$).

The CEOs reported that they judged the performance of other organisations using published indicators, mostly financial performance (47%; $n = 27$), but also through benchmarking (28%; $n = 16$), patient/client feedback (5%; $n = 3$), staff satisfaction (5%; $n = 3$), Department of Human Services (DHS) data (4%; $n = 2$) and information on service provision (4%; $n = 2$). It was interesting that DHS data was not reported as being more useful in performance monitoring.

3 Reported linking of indicators with staff performance management

	Metropolitan health services		Regional hospitals		District hospitals		Community health services	
Type of indicator	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**
Financial results	7	87.5	3	42.9	10	35.7	7	33.3
Actual volume	5	62.5	2	28.6	3	10.7	7	52.8
Wait list	5	62.5	1	14.3	4	14.3	1	4.8
Staff satisfaction	5	62.5	2	28.6	7	25.0	4	19.1
Patient satisfaction	3	37.5	5	71.4	21	100.0	20	71.4
Adverse events	3	37.5	1	14.3	5	17.9	1	4.8
Clinical outcomes	2	25.0	1	14.3	7	25.0	0	0
Functional status	0	0	1	14.3	4	14.3	0	0
Community integration	1	12.5	1	14.3	3	10.7	0	0
Care integration	2	25.0	1	14.3	3	10.7	3	14.3
Total/Average %	33	41.3	18	25.7	67	26.4	43	20.0

Discussion

This study has identified weaknesses in performance monitoring within Victorian health care organisations. Although the CEOs reported use of a range of performance indicators, they were primarily traditional financial and volume indicators, which are unlikely to provide sufficient information for effective strategic control. In addition, there was little evidence that these organisations had effective systems in place, such as benchmarking or linking with performance management, to understand the implications of the performance information and translate them into management action. This varied by the type of organisation, with the larger organisations reporting significantly greater use of benchmarking than the smaller organisations. This study may provide some understanding of the apparently attenuated ability of these organisations to anticipate and respond in a timely manner to key strategic and operational issues. These findings are not inconsistent with other studies that have suggested that performance indicators used in the public and health sectors do not provide relevant information to position the organisations for future challenges.[3,13]

The literature defines three main phases in the development of performance monitoring: an initial focus on the financial perspective, moving to multi-dimensional performance measurement frameworks (such as the balanced scorecard), and more recently, a greater link to realisation of strategy.[14] The balanced scorecard, with a 'balance' of financial, operational and customer satisfaction indicators, as a foundation to strategy maps, has been identified as an effective tool to monitor and improve organisational performance.[5,15] There is overwhelming evidence of the need for organisations to derive their performance measures from strategic objectives,[7,16-19] and ensure that mechanisms are in place to measure achievement of mission and strategy.[20] But this was not evident in this study. The majority of the organisations that participated in this survey have publicly available strategic plans, yet the performance indicators identified would not have provided sufficient information to monitor achievement of the nominated strategy.

Information requirements for monitoring performance

Traditional financial indicators were devised from cost accounting systems designed for an environment of mass production of a few standardised items. The information systems under-

lying these indicators are optimised for the management of transactions within departmental 'silos'. These traditional indicators do not accommodate the complex production processes of health care delivery and may pressure managers and supervisors into maximising short-term results, and thereby discourage a long-term strategic view.[21]

Few health care organisations have information systems that can effectively track the total enterprise care processes from beginning to end. In addition, without sufficient balancing information on other operational areas, financial indicators cannot provide useful information on either the causes or solutions to problems, and are not useful in predicting future performance.[5]

Financial indicators are unable to capture key business changes until it is too late, as reporting is based on actions taken months earlier.[16] Even though the CEOs reported that these indicators were regularly reported to the governing board, it is not unusual for board members to be reviewing indicators from the month of May at the July board meeting, indicators that would have been related to management decisions made and implemented in much earlier time periods. How is it possible for the senior/executive management team and the board to understand how the behaviours four to six months earlier have contributed to the reported financial and volume performance measures without other information?

A further concern related to the reported over-emphasis on financial and volume indicators is the negative impact that irrelevant performance information has been shown to have on effective performance monitoring. Health care is a high velocity industry, characterised by discontinuous change and inaccurate information.[22] Even when there are performance data that provide the basis for judgments about organisational performance ('diagnostic information'), the simultaneous presence of information that is not useful for this purpose ('non-diagnostic information') has been shown to lead decision makers to discount the importance of the truly diagnostic information.[23] Nisbett, Zukier and Lemley termed this phenomenon the dilution effect.[24] The dilution effect may be the most serious consequence of the reported over-emphasis on financial and volume indicators.

In the health sector information that enables valid benchmarking on cost and clinical outcomes can be considered to be diagnostic information. On the other hand, non-diagnostic financial information may indicate that the service makes a financial loss against the payments made by a funder. Using the 'non-diagnostic' information the decision makers might conclude that the service performance (rather than the funding) is inadequate when, in fact, the diagnostic information suggests good performance on both cost and clinical outcomes.

Other jurisdictions have recognised the need to monitor a broader suite of indicators that ensures useful information on the 'business of providing health care', with balanced scorecard approaches used effectively to monitor strategy and operations in health service organisations.[7,8,15,25,26] There are also other sources of requirements for a balanced set of performance indicators, including important changes to corporate reporting and international financial reporting standards,[27] increasing requirements for strong corporate governance[28] and greater awareness of the information needs of the different stakeholders.[9]

Organisational requirements for monitoring performance

Although there is a strong body of literature that confirms the performance benefits of benchmarking,[6,10,29] the CEOs reported relatively limited use. While this is consistent with findings of other studies,[30,31] it suggested a limitation in the ability of these organisations to improve performance. When acknowledged high quality health care organisations, such as those that have been named as recipients of the Malcolm Baldrige National Quality Award, communicate their lessons learned, benchmarking is always identified as essential to

ensuring the delivery of high quality health care.[20] Ensuring effective benchmarking requires investment of resources. The ability of the metropolitan health services to mobilise resources for performance measurement and benchmarking perhaps explains the significant difference in use of benchmarking between the MHS and the other health care organisations in this study.

This study also found that few organisations were able to ensure that performance requirements (as related to key performance indicators) were embedded in staff performance management processes. These findings highlight the difficulties health sector organisations have, in comparison with other industries such as manufacturing or sales, in translating strategic goals to individual and team performance expectations. Although many public sector organisations have effective performance monitoring, few have been able to link the scorecard indicators to the managers' and staff performance goals.[11] Yet, the research is very strong in this area: organisational performance (measured variously as financial performance, productivity, quality performance and market share) has been found to be positively related to human resource management practices directly linked to the organisational strategy.[11,32,33] At a minimum, results-based performance appraisal has been associated with improved performance, as has the use of performance-contingent incentive compensation.[12] This is an area that requires ongoing support to better define valid, comparable health outcome indicators that can be visibly linked to individual and team performance requirements. With support, this area provides a strong opportunity for the organisations surveyed to improve performance.

Limitations of this study

As performance monitoring is an evolving area in the health sector, our results may have been confounded by lack of consistency in the use of terminology by CEOs in different sectors and with different backgrounds, a problem we propose to pursue in further research. We also recognise that performance monitoring can involve a range of qualitative and often intuitive knowledge that is not readily apparent in reported measures. This paper reports on how the CEOs described performance monitoring in their organisations — additional study is required on the use of perceptions, the performance measures collected by other levels in the organisation, and, most importantly, the impact of government policy in influencing the performance measures these organisations collect.

Conclusion

Effective strategic control requires appropriate performance measurement, and the mechanisms to translate data into knowledgeable actions,[4] neither of which were strongly demonstrated in this study of performance monitoring in the Victorian health care sector. It is recognised that performance reporting in the health sector is both complex and costly,[19] and research in this area has found that those organisations with effective performance monitoring systems were well supported with technical expertise and assistance in data reporting, benchmarking and quality performance.[6] This study suggests opportunities for improvement in the performance monitoring of Victorian health sector organisations, as well as the need for further research to explore the identified issues in more detail. Policymakers and funders should consider how best to support health sector organisations in improving performance monitoring.

Competing interests

Dr Leggat is a member of the Board of Directors of one of the organisations that may have completed a survey questionnaire.

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References

1 Weitzel W, Jonsson E. Decline in organisations: a literature integration and extension. *Administrative Science Quarterly* 1989; 34: 91-109.

2 Julian SD. An interpretive perspective on the role of strategic control in triggering strategic change. *Journal of Business Strategies* 2002; 19: 141.

3 Kovner AR, Elton JJ, Billings J. Evidence-based management. *Frontiers of Health Services Management* 2000; 16: 3-24.

4 Potthoff S. Leadership, measurement and change in improving quality in healthcare [reply]. *Frontiers of Health Services Management* 2004; 20: 37-41.

5 Kaplan RS, Norton DP. Using the balanced scorecard as a strategic management system. *Harvard Business Review* 1996; January-February: 75-85.

6 Scanlon DP, Darby C, Rolph E, Doty HE. Use of performance information for quality improvement. *Health Services Research* 2001; 36: 619-41.

7 Leggat SG, Narine L, Lemieux-Charles L, et al. A review of organisational performance assessment in health care. *Health Services Management Research* 1998; 11: 3-23.

8 Ballard DJ. Indicators to improve clinical quality across an integrated health care system. *International Journal for Quality in Health Care* 2003; 15: i13-23.

9 Ibrahim J. Performance indicators from all perspectives. *International Journal for Quality in Health Care* 2001; 13: 431-2.

10 National Coalition on Health Care, Institute for Healthcare Improvement. Accelerating change today. ACT for America's Health: Robert Wood Johnson Foundation; September 2002.

11 MacDuffie JP. Human resource bundles and manufacturing performance. *Industrial & Labor Relations Review* 1995; 48: 197-215.

12 Delaney JT, Huselid MA. The impact of human resource management practices on perceptions of organizational performance. *Academy of Management Journal* 1996; 39: 949-69.

13 Griffiths J. Balanced scorecard use in New Zealand government departments and crown entities. *Australian Journal of Public Administration* 2003; 62: 70-9.

14 Radnor Z, McGuire M. Performance management in the public sector: fact or fiction? *International Journal of Productivity and Performance Management* 2004; 53: 245-60.

15 Pink GH, McKillop I, Schraa EG, et al. Creating a balanced scorecard for a hospital system. *Journal of Health Care Finance* 2001; 27: 1-20.

16 Tangen S. An overview of frequently used performance measures. *Work Study* 2003; 52: 347-54.

17 Baker G. Incentive contracts and performance measurement. *Journal of Political Economy* 1992; 100: 598-614.

18 Kaplan RS, Norton DP. The balanced scorecard. Boston: Harvard Business School Press; 1996.

19 Adair CE, Simpson L, Birdsell JM, et al. Performance measurement systems in health and mental health services: models, practices and effectiveness. Calgary: The Alberta Heritage Foundation for Medical Research; 2003.

20 Ryan MJ. Achieving and sustaining quality in health care. *Frontiers of Health Services Management* 2004; 20: 3-12.

21 Pineno CJ. The balanced scorecard: an incremental approach model to health care management. *J Health Care Finance* 2002; 28: 69-80.

22 Stepanovich PL, Uhrig JD. Decision making in high-velocity environments: implications for healthcare. *J Healthcare Management* 1999; 44: 197-205.

23 Kemmelmeier M. Separating the wheat from the chaff: does discriminating between diagnostic and nondiagnostic information eliminate the dilution effect? *Journal of Behavioural Decision Making* 2004; 17: 231-43.

24 Nisbett RE, Zukier H, Lemley R. The dilution effect: non-diagnostic information weakens the implications of diagnostic information. *Cognitive Psychology* 1981; 13: 248-77.

25 Inamdar N, Kaplan RS. Applying the balanced scorecard in healthcare provider organizations. *J Healthcare Management* 2002; 47: 179-95.

26 Arah OA, Klazinga NS, Delnoij DM, et al. Conceptual frameworks for health systems performance: a quest for effectiveness, quality and improvement. *International Journal for Quality in Health Care* 2003; 15: 377-98.

27 Tweedie D. Looking ahead at 2004: a global standard-setter's perspective. *Balance Sheet* 2004; 12: 5-7.

28 Victorian Auditor-General's Office. Guiding principles of corporate governance in the public sector. *Auditing in the Public Interest* 2004; Autumn: 2-8.

29 Mann L, Samson D, Dow D. A field experiment on the effects of benchmarking and goal setting on company sales performance. *Journal of Management* 1998; 24: 73-96.

30 Rainwater J, Romano P, Antonious D. The California Hospital Outcomes Project: how useful is California's report care for quality improvement? *Journal on Quality Improvement* 1998; 24: 31-9.

31 Soberman Ginsburg L. Factors that influence line managers' perceptions of hospital performance data. *Health Services Research* 2003; 38: 261-86.

32 Snell SA, Youndt MA. Human resource management and firm performance: Testing a contingency model of executive controls. *Journal of Management* 1995; 21: 711-737.

33 Youndt MA, Snell SA, Dean JW, Lepak DP. Human resources management, manufacturing strategy, and firm performance. *Academy of Management Journal* 1996; 39: 836-66.

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