Balancing the balanced scorecard for a New Zealand mental health service

Colleen F Coop

Abstract

Given the high prevalence of mental disorders, there is a need to evaluate mental health services to ensure they are efficient, effective, responsive and accessible. One method that is being used is the "balanced scorecard" which uses performance indicators in four quadrants to assess various dimensions of service provision. This case study describes the steps taken by a New Zealand mental health service to improve service management through greater use of key performance indicators in relation to preset targets using this approach.

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What is known about the topic?

There has been substantial recent activity in the design and implementation of mechanisms to monitor the effectiveness of mental health services.

What does this paper add?

This paper describes the process and the resulting "balanced scorecard" for mental health services in a New Zealand mental health service. Performance indicators were identified for four scorecard quadrants comprising clinical quality, productivity, learning and organisational health, and financial.

What are the implications for practitioners?

Other mental health services may be interested in similar scorecard development and the lessons learned, especially the need to treat this process as a significant change-management initiative, using the principles of change management. ◆

PERFORMANCE MANAGEMENT is defined as achieving objectives by control, and thus requires a systemic approach to exercising control over processes and activities within organisations to achieve some preset purpose. Purpose, effectiveness and efficiency lie at the heart of the task of control within an organisation.[1] In 2000, New Zealand adopted a performance management framework for its publicly owned hospitals and affiliated services based on the "balanced scorecard" approach first disseminated by Kaplan and Norton.[2] These services are governed and run as part of Crown entities known as District Health Boards (DHBs) and referred to as "provider arms". The scale and importance of the activities of the provider arms, and the existence of semi-independent governance arrangements (a sizeable minority of the Board are publicly elected every three years) means that a transparent approach to monitoring and comparing the performance of provider arms is important to the public of New Zealand.

The ideal balanced scorecard is a carefully selected set of quantifiable indicators chosen to operationalise organisational strategy. The original Kaplan and Norton model proposed that the most important measures of performance could be categorised under four headings: innovation and learning, customer satisfaction, internal processes, and finance. Selecting quantifiable indicators allows internal monitoring of improvement (or deterioration) over time, as well as between-organisation benchmarking and development of best practice across a sector. A set of indicators within the balanced scorecard model can be a powerful tool for health care improvement.

Mental health is one area of health that is poorly understood by the general public, and those who suffer mental ill-health are likely to be subjected to stigmatising and discriminating attitudes. Although large scale anti-discrimination cam-

Colleen F Coop, BA, DipClinPsy, PhD, DipHSM, MPM, General Manager
Mental Health, Otago District Health Board, Dunedin, Otago, New Zealand.

Correspondence: Dr Colleen F Coop, Mental Health, Otago District Health Board, Great King Street, Dunedin, Otago 9001, New Zealand. **colleen.coop@otagodhb.govt.nz**

1 New Zealand Indicator Framework (under review)

Organisational health and learning	Patient and quality	Process and efficiency	Financial
Staff turnover	Patients' overall satisfaction	Resource utilisation ratio	Return on net funds employed
Staff stability rate	Hospital acquired bloodstream infections	Performance to contract	Operating margin to revenue
Sick leave rate	Emergency triage times	Inpatient average length of stay by patient admission rate	Revenue to net funds employed
Workplace injuries	Percentage of complaints resolved/closed within 30 days	Percentage of eligible elective day case surgery	Debt: debt plus equity ratio

paigns such as "Like Minds, Like Mine"[3] in New Zealand, and "*beyondblue*" in Australia[4,5] are having positive effects on the identification and management of mental disorders, much work remains to be done to reach a point where those with disorders do not experience social exclusion and remain productive members of their community. Moving towards this goal requires communities that accept that mental health care is effective and efficient. This requires evidence of optimal service delivery that relies on robust information from services and key performance indicators within a monitoring framework. With this in mind, one mental health service in New Zealand decided to develop a set of indicators using the balanced scorecard approach to guide service improvement.

Setting

During 2005, the initial New Zealand balanced scorecard adopted in 2000 was reviewed by the central policy agency, the Ministry of Health, to determine whether the indicators were still meaningful, and whether there were additional indicators that should be added. While this scorecard (both pre and post review) has merit, the indicators were more orientated to medical and surgical areas, and organisation-wide financial performance (Box 1). Our DHB provider arm mental health services in New Zealand wanted to have a way of monitoring, and potentially comparing, performance with indicators that were relevant to the provision of mental health care and accepted and understood by staff. As part of this, an indicator of outcome was seen as desirable, despite the difficulties of attribution. Therefore the task was to amass a set of indicators that would be comparable with other non-mental health services, yet still represent the important dimensions of what is required to deliver quality mental health services.

Outcomes

An initial set of indicators based on organisation-wide indicators was refined to suit our service. Most of these indicators are collected on a monthly basis with the exception of three human resource (organisational health and learning) indicators which are annually reported; and the community full time equivalent (FTE — financial quadrant) which is collected on a quarterly basis. The first hurdle was to assess the four main quadrants of the scorecard for "fit" with mental health services. After considerable development, scorecard quadrants were determined for monitoring and future benchmarking (Box 2).

The involvement of all staff within the service in this process would have been optimal for the development of these indicators. However, for reasons discussed later in the article, this was not completely possible. In lieu of total staff input at the development stage, the mental health Service Quality Improvement Committee was used as the steering group for development. This group represented many views within the service: along with senior managers, quality advisors and professional advisors from the various disciplines, the group included cultural, family and consumer advisors.

2 Key performance indicators and targets for the mental health service

Clinical quality (outcomes)	Productivity (efficiency)	Learning and organisational health (quality)	Financial
Readmission rate (15%)	Acute inpatient ALOS (21 days)	Staff turnover (2.4% monthly)	FTEs total (as per budget)
Change in HoNOS scores – community (11%)	Occupancy ■ total (100%) ■ acute (leave incl – 85%) ■ acute (leave excl – 100%) ■ rehab. (leave incl – 85%) ■ rehab. (leave excl – 100%)	Sick leave rate (3%)	FTEs community (as per purchase framework)
Change in HoNOS scores – inpatient (50%)	Nursing hours per patient day ■ all (7.1) ■ acute (7.2) ■ intellectual disability (7.2)	% complaints resolved within specified time (95%)	Number of staff with annual leave more than 300 hours (0)
	Outpatient DNA rate (0)	Staff with biannual bicultural training (100%)	Operating surplus (as per budget)
	Total adult caseload (3% of adult population)	% staff who identify as Māori or Pacific Islander (6%)	Personnel costs (as per budget)
	% FSAs seen within 60 days (100%)	Performance appraisals completed annually (100%)	Overtime costs (as per budget)

Targets are in brackets. ALOS = average length of stay. FTE = full time equivalent. HoNOS = Health of the Nation Outcome Survey. DNA = did not attend. FSA = First specialist assessment. ◆

These three positions in turn act as lead advisor for a council of advisors that meets monthly to provide advice to the service. We believe this model brings to life the partnership principle that is a guiding principle of service delivery, ensuring that no decisions are made without genuine input from indigenous peoples ("Māori/tangata-whenua"), families/carers, and service users.

Financial

The financial measures used for whole organisations were not relevant, and so it was decided that the most appropriate financial-based indicators would be those that reflected the way that services were purchased. Caseweights are not used for funding in mental health; services are funded on inputs — either a bed-day price or an FTE staff member price. Based on this, it seemed logical to use the drivers of funding as an indicator of financial performance. However, the price determined by the purchaser is not necessarily related to what it actually costs per FTE to provide the service, which is dependent on salaries and overhead costs. The volumes delivered (ie, bed days and FTE employed) are monitored by the District Health Boards and the Ministry of Health, and mechanisms exist to adjust revenue if volumes are not being met.

Other indicators in this quadrant are personnel costs, and overtime costs, which do affect financial performance, and targets have been set based on budget figures. These indicators are commonly used to assess variance beyond set parameters, thus allowing early resolution strategies to be adopted. Number of staff with annual leave hours greater than 300 is a measure of financial liability, as wage awards revalue this leave at more than the hourly rate effective when it was accumulated. The target here is to have no staff member with more than 300 hours leave, soon to be reduced to 200 hours (current leave).

Clinical quality

This quadrant proved the most challenging for the development of indicators that would provide quantifiable, comparable measures of customer

satisfaction. There are no standardised consumer satisfaction surveys in use in DHB mental health services, although there is a project to develop and implement a satisfaction survey in secondary mental health services. The service wanted to move towards indicators of outcome, or measures that could be used as proxies for outcomes, rather than simply satisfaction ratings, which, although recognised as important as a reflection of the experience of care, are not necessarily the best way to measure the effectiveness of an intervention.

Three measures are currently collected in this quadrant. The first, readmission rate, was chosen as an indicator of intermediate outcomes, given that unplanned readmission in the three months after discharge from an inpatient unit may indicate less than satisfactory discharge planning or follow-up in the community. Two other scores have been very recently introduced. Health of the Nation Outcome Survey (HoNOS) scores have been adopted nationally in New Zealand as an outcome indicator, and targets for change over a three month period have been taken from the Classification and Outcomes Study conducted in eight mental health services in New Zealand.[6]

Productivity

Measures of efficiency were reframed as "productivity" as the connotation of efficiency was not accepted as well by staff. Within this quadrant we have placed average length of stay (in acute wards only) as a measure of timely ward processes and discharge planning; occupancy and nursing hours per patient day as measures of the efficient rostering of staff in relation to numbers of patients on the ward; outpatient "did not attend" (DNA) rate, which indirectly reflects the amount of non-productive time following non-arrival of a patient; and finally, caseload for the total service, which has been set nationally at 3% of the adult population. Not all services in New Zealand would be able to reach this target as it is reliant on a full set of "benchmark" services as described in *Blueprint for mental health services in New Zealand: how things need to be*.[7] Our district is one of three areas in New Zealand which are at or above the recommended levels of funding (although this is not equitably distributed over the various subspecialties within mental health), and so this target can be used to assess the productivity of the service.

Learning and organisational health

This quadrant has been subtitled quality, as the concepts of learning and organisational health are still somewhat unfamiliar to many staff. The evolution of strategic human resource capacity within health organisations is recent, and the concept of human resource functions being more than payroll and timesheets is slowly emerging. However, it is commonly accepted that well trained and satisfied staff contribute greatly to high quality services, and using this as a byline for the importance of human resource indicators has been useful. Organisations need to be able to measure investment in learning and development and to demonstrate the effectiveness of that investment in outcomes of the organisation. Links between high performing hospitals, staff satisfaction, and training opportunities have been documented.[8,9] Involvement in decision making, a supportive culture in the workplace, effective change management, training and career development and fair reward systems are correlated with staff satisfaction and better quality clinical outcomes. Thus, better clinical outcomes can be achieved through a focus on the quality of the workforce[10] and can provide information on the degree to which an organisation is progressive and innovative, and in "good health".

Two indicators used in this section are frequently used measures of organisational health — namely, staff turnover and sick leave. Another measure we have adopted, which is not generally collected within this quadrant, is percentage of complaints resolved within the specified time, which we have interpreted as a measure of quality.

Most of the indicators are collected monthly. On an annual basis (at the end of the financial year) we also collect percentage of staff with annual performance appraisals, to signify the importance of career development and acknowledgement of staff progress towards the provision of high quality services. A further indicator we have developed is the percentage of staff with biannual bicultural training — considered to be very important for a

service which has statutory obligations to Māori. Mental health services have a relatively high percentage of Māori patients relative to the general population in New Zealand. One of the reasons proposed for this difference is that mental health services are monoculturally orientated and not responsive to the needs of Māori. Making staff more aware of bicultural issues may make the services more accessible and therefore more effective for Māori. Finally, we collect the percentage of staff who identify as Māori or Pacific Islander, also interpreted as a proxy measure for responsive and accessible services, and indirectly we hope that increasing the proportion of staff in other ethnic groups will increase the responsiveness of the services to these target patient groups.

Problems

As other developers of mental health scorecards have found,[11] there were issues with the use and interpretation of the indicators in our scorecard. The main issues follow.

Ranking of importance

It is tempting to attempt to rank the indicators as more or less important, which helps with the interpretation of those that have produced a negative variance from the target. However, in reality the indicators are all part of one jigsaw — all are equally required to complete a picture. Educating staff and other stakeholders to not inappropriately place more importance on some indicators than others is an ongoing task.

Attribution

As with all health services, attribution of outcomes is problematic.[1,12] In the end, outcome measures will be always be predicated on value-based judgements of those who hold the political power at the time[13,14] and are in fact multi-level constructs that require monitoring of change at several different levels and in a number of different systems.[15] For example, is recovery from a mental health problem defined as the extent to which someone can resume a "normal" life due to medication, a supportive counsellor, having gainful employment, having enough social support networks, or having stable housing? Reasonably, it is probably a combination of all of these and more, operating in different ways for different people. Indicators provide some comment on the functioning of a mental health service, especially for those that are more directly related to outputs (eg, number of staff employed), but even apparently self-contained indicators such as average length of stay are subject to factors outside the control of staff, such as number of community housing options available, number of jobs in a particular locality, and government policy on return to work and benefit entitlements. These factors are required for stable functioning in the community and no mental health service is likely to discharge before required services are in place.

Data quality

The validity of indicators is reliant on robust definitions and standardised collection and analysis. With some indicators which are not electronically collected but are reliant on manual collection, ensuring data are robust becomes an issue. Busy staff will often see "stats" as the last on their long list of priorities, and missing data, as well as hastily collected data, are a significant problem. Auditing cycles have been established, but this merely adds to a busy workload and can sometimes compound the problem.

Relevance to staff

Staff in caring professions tend to have characteristics that led them to a health career — wanting to work with people, to help, and to be part of a humanistic science. Data for many are seen as the antithesis of this. As well, when many staff trained there was significantly less emphasis on the collection and verification of information, less public demand for transparency and accountability, and less expectation that staff would be aware of the financial realities of providing a service. Since the 1980s and the huge changes in the way that New Zealand operates its public sector, introduced by the Public Finance Act 1989 and the State Sector Act 1988, there is a far greater expectation that staff be fiscally educated and responsible, and data-

literate. For some, this is a very big cultural divide that they are unable to easily cross.

Finding indicators that measure "active" ingredients of care

Public mental health services in New Zealand, along with some other Western countries, operate a predominantly "community" model of mental health care. All major institutions have been closed over the past 20 years, leading to development of community mental health teams, along with sub-specialties teams targeted at children and youth, forensic, cultural groups, drug and alcohol, older person and early intervention. There are local variations in how these teams have developed, and differences around New Zealand in the extent of community-based staff and number of inpatient beds per head of population. There are differences in, among other things, the skill mix in teams, the frequency of home visits, the follow-up period after discharge and the ratio of registered to unregistered staff in both in- and outpatient settings. So far we have not started on the journey to discover what factors contribute to improved outcomes, that is, what are critical and "active" factors in interventions, and which are inactive. Discovering these, and establishing indicators to measure them, would be a significant step forward for mental health services and performance-monitoring frameworks.

Discussion and lessons learned

Development of performance indicators creates anxiety for people. The intent of assessment is generally interpreted in a negative way, and it is assumed that the measurement of certain aspects of performance will be used to criticise, change, and review services, resulting in upheaval and change for staff. The creation of a culture where transparency and monitoring are seen as integral parts of any job, rather than as an adjunct revealed in times of concern, is recent in public services. Criticisms of performance monitoring are that while outputs are the wrong thing to specify, defining and measuring meaningful outcomes is fraught with problems. Despite these difficulties, the public service has to be able to demonstrate to the taxpayers effectiveness, efficiency, economy, availability, access, extensiveness, acceptability, quality, fairness, degree of equity, predictability and degree of democratic control.[16] Development of indicators that will be accepted and used by staff need to follow the same path as for any change-management process. We need to involve staff, provide as much information as is possible, and look for the champions in the service who can be influential in the various teams so that they can be a positive leader in the development of indicators.

Most mental health service staff (and managers) are unused to the quantitative approach of performance management and believe that mental health services are unique because the outputs and outcomes cannot easily be quantified, defined and measured. Public sector organisations are generally unable to gain control over all facets of the problem they are addressing, and so outcome indicators are not necessarily a robust reflection of the effectiveness of the organisation. In addition, the complexity of services typically results in a multiplicity of indicators that must be collected to satisfy the multiple and sometimes conflicting stakeholders who monitor and assess public services. However, development of robust policy to guide mental health services must be based on evidence from the data collected by the services. Anecdotal planning of services is not appropriate for our vulnerable consumers. We learned that this vital message was required at every opportunity to promote the balanced scorecard as an integral part of service operations.

During the development phase of the scorecard there were some indicators that had face validity for staff, however development had to stop at the first stage as the necessary data were either not collected, or could only be collected at great cost (ie, health record audit). Indicators should provide a transparent window on the activities of a service, but should not cost more to collect than they provide in benefits. Unfortunately, relatively unsophisticated electronic databases mean that some indicators will need to be parked for the second wave of development as we wait for technology to catch up.

To improve the usefulness of indicators[9] there needs to be:

- staff involvement in their establishment;
- a regular review of the indicators;
- use of other methods of control;
- priority measurement of client satisfaction;
- regular audit of data;
- a small number of indicators; and
- use of benchmarks against which to assess the indicators.

Our service has met five of these seven standards; client satisfaction is not currently given priority for measurement and there is no inter-service benchmarking. These are the next challenges. Benchmarking is due for trial in 2006 between District Health Board provider arm services, and a satisfaction survey is planned for nation-wide implementation early in 2007. Over time, our balanced scorecard has been, and will continue to be, a focal point for quality improvement in our drive for improved services for those with mental disorders.

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Competing interests

The author declares that she has no competing interests.

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