Managing quality in cancer services: why improvement isn't easy

Roslyn Sorensen, Anne J Lloyd, Cathelijne Van Kemenade and Paul R Harnett

Abstract

Optimising the quality of care is an imperative for health services worldwide, including in Australia. Recognition that poor quality often has its roots in system failures is beginning to shift strategies for improvement to the systems of care, although the tendency remains to focus on eliminating the practice variations of individual clinicians. In those instances where systems improvement is addressed, strategies tend to be generic and technical, and often unrelated to the context in which they are applied.

This paper reports an interim evaluation of a quality management program in cancer services implemented in a Sydney metropolitan teaching hospital dispersed across multiple campuses. The paper aims to inform the debate on quality improvement by reporting not only on what was achieved, but why change seems to be so hard. We found that organisational and social factors that influence the quality of health services were not sufficiently addressed, compared with technical factors. We conclude that service quality needs to be repositioned as an organisational goal, and implemented via a structured process that addresses organisational and social factors, as well as technical factors.

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What is known about the topic?

The incidence of quality and safety problems in health care has been the target of great professional and public concern. In spite of the development of new policies and approaches, and much activity in health services in Australia and the rest of the world, there is no evidence that the overall risk of harm, or poor outcomes, has been reliably reduced. The challenge of making the system safer remains.

What does this study add?

This evaluation of a major quality management initiative in a cancer service documents some success, but also difficulties, in implementing sustainable improvements in the complex processes of cancer care, and is unable to demonstrate any impact on costs. The need for action to improve organisational processes, and the need to address social relationships among care providers of different disciplines are identified as primary limiting factors on the success of this program.

What are the implications?

Efforts to improve the quality and safety of care need to focus less on technical quality (evidence, guidelines) and more on recognising the organisational, policy and professional barriers to good care.

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Changing approaches to improving quality

Improving the quality of care has been a general aim of health services in Australia and internationally for at least the last 20 years.[1,2] It is now an imperative, particularly in its more specific form of managing adverse events.[3,4] This change in emphasis has come about largely from high profile reports of quality failures, and improved methods that have enabled the quantification,

categorisation and attribution of cause to adverse events.[4-7] Analyses of cause show that error is as much the result of poor systems as of poor clinical practice.[8-11] Nonetheless, the propensity remains to attribute blame to the practice variations of individual clinicians,[12-15] to devise improvement strategies based on the adoption of technical, best practice methods of care, and to individually manage poorly performing doctors.[12,16]

Health policy in Australia strongly supports the evidentiary basis of clinical care as a means to improve quality.[17-21] Policy tends to favour scientific, technical approaches, including evidence-based guidelines and clinical pathways, and their implementation is often assumed to be automatic. However, bridging the gap between evidence and practice[22] is complex and contested. Changing practice to conform to evidence requires that clinicians change their understanding about the rationale for care, and hence their routine modes of practice. Policy recommendations which are based on an assumption of clinician compliance might not be achieved, for a number of reasons. First, medical clinicians may resist the curtailment of their autonomy that the systematisation and standardisation of guidelines and pathways require.[23] Second, rational decision-making models are not applicable to all cases, especially where care is complex and outcomes uncertain.[23] Third, pathways are often viewed as political documents, used more for efficiency than for quality purposes.[24] Finally, the level of interdisciplinary collaboration necessary to integrate the diverse components of care may not exist.[23,25,26] These factors suggest that improving the quality of care may not depend solely on determining best care based on evidence, but also on coherently organising the diverse, complex and uncertain therapeutic and diagnostic elements of care among myriad multidisciplinary clinicians and managers, and patients, dispersed geographically and temporally.

What is often missing from improvement strategies, including those proposed in this Journal,[27-29] is a knowledge about what changes will work, how change will come about and who will do it. These considerations are salient if, as the literature suggests, quality problems are not unique to either individuals or organisations,[29] if organisations as well as individuals resist change,[30] and if solutions such as clinician education and increased funding are misdirected.[2] Rather, the "quality problem" may be better understood in terms of people not managing, or not knowing how to manage, the complex systems in which care occurs and of which they are a part.[2]

This raises the question of the types of change that will contribute most to quality improvement. Recently, technical systems-based solutions such as business process reengineering (BPR) and six sigma (SS) have found favour. These strategies have limitations, however, including in the context of health services. The majority of BPR projects do not achieve expected results, often because of unsustained management commitment, unrealistic expectations and resistance to change.[31] Assumptions that underlie these strategies about the existence of dedicated teams, user participation and effective problem-solving [32] can not be made in the case of health services. Importantly, neither of these methods takes into account the multiple dimensions of organisational change, the complexity of work and the relationships between individuals and between individuals and their work.[33] The invisible work of health — the social networks and corporate knowledge needed to get things done — disappears from such technical approaches.[34] It may be precisely the contradictions and ruptures that occur in daily work routines that bring understanding about how work actually gets done and who does it.[35]

In this paper, we report on the implementation of a quality management demonstration program aimed at bringing together "technical quality, caring quality, cost and value".[36] The aims of the paper are to report on the process and outcomes of an interim, mid-term evaluation of the program, and to draw out implications for practice. We conclude that managing and improving the quality of care is a core organisational activity, multifaceted in strategy, systemic in design and programmatic in implementation.

The paper advances the view that transforming organisations and the practices of the people in them is a complex and difficult process[37] that also demands attention to how work is organised within and across workplaces and how well people work together when quality improvement policies and strategies are being designed and implemented.

Quality management in cancer services

In 2001, The Cancer Council NSW, a non-government consumer-based organisation sponsoring developmental work on quality management of cancer services, tendered for a NSW area health service (AHS) to implement a quality management program. The objectives of the tender were to:

- Apply a quality management model to improve consumer expectations, health outcomes and value, as defined by patient preferences and health resources; and
- Become a centre of excellence through a lead Area, to establish the model, market performance, and consult to services in NSW.

The demonstration vehicle was quality management: "a systematic approach, applied by health care practitioners at the health care service level, to identify and address the problems with health care products and services and redesign them to improve health status and consumer satisfaction".[36] (page 3) This approach "appears robust enough to improve technical performance, resource utilisation, customer satisfaction and to deal with values and trade-offs relating to care in an acceptable way".[36] (page 3) The program would test this proposition in a way that was consistent with NSW Health's policy on quality improvement,[17] in that

> … elements would include the use of agreed local practice specifications — including policies, clinical pathways, and practice criteria — as a vehicle for the promotion of scientific medical practice, the incorporation of a consumer perspective on care, and a yardstick whereby practice can be assessed. These elements should relate effectively to wider organisational arrangements and Area responsibilities for quality activities and reporting, while recognising the essential role played by health care professionals and health care teams in quality improvement.[36] (page 4)

Cancer Services (CS) Western Sydney and Wentworth Area Health Service won the tender, and work on the program, entitled the Quality Management in Cancer Services Program (QMCSP), began in 2002, with funding of $1.5 million over 5 years. Three positions were funded: a program manager and two project officers.

Implementation of the program consisted of funding and consultancy support for a range of quality improvement projects chosen by CS medical managers. In all, sixty projects were funded and supported in the first 2 years of the program, as set out in Box 1. Thirty-two projects related to the organisation of care, 20 to clinical effective-

1 An overview of program projects

Domain of activity	Category of project	No. of projects
Organisation	Organisational effectiveness, systems audit, project management, performance management, resource efficiency, standardisation of care processes, systematisation of care processes, team effectiveness, consumer consultation	32
Clinical processes	Clinical effectiveness, clinical risk management, clinical efficiency	20
Patient involvement	Patient education, patient safety, patient feedback, patient comfort	8
Total projects		60
Completed projects at time of evaluation		24 (40%)

2 Overview of evaluation method

Method	Component evaluated	No. of cases
Document review	Project files	60
	Clinical pathways developed	1
	Performance agreements (QMCSP and CSP)	5
	Steering committee documents (terms of reference, program plans, minutes of meetings and reports)	9
Medical record review	Breast cancer records	20
	Lung cancer records	20
Attendance and observation of departmental meetings	Radiation oncology quality assessment	1
	Palliative care departmental	1
	Lung multidisciplinary team	1
	Breast multidisciplinary team	1
Focus groups	Attendees of clinical practice improvement training	2
	Ward nurses	2
	Nursing managers/ educators	2
	Medical registrars	1
Interviews with program principals	QMCSP managers and officers	4
	Area managers	3
	Cancer Services managers	10
	General practitioner	1
	Consumer	1

QMCSP = Quality Management in Cancer Services Program. CSP = Cancer Services Program.

ness and eight to patient experiences of care. Environmental scans were included in the organisation-related projects that included an audit of existing quality systems in the organisation and a consumer consultation process about participation and feedback.

Method of evaluation

An interim, mid-term evaluation of the program was undertaken (by Roslyn Sorensen) to gauge the extent to which it had met, or was likely to meet, its objectives. The findings were intended to guide planning and activity in the remaining 3 years of the program. A multi-method approach to the evaluation was used to collect and quantitatively and qualitatively analyse the data. The methods, the component of the program being evaluated and the representative sample of cases involved are set out in Box 2.

Documentation review

Project files were examined, and the methods used by program personnel to implement the program were assessed, along with the quality of documentation, and the outcomes (in terms of both quality and cost) of program intervention. Clinical pathways and performance agreements with QMCSP personnel and CS managers involved in the program were also assessed. The effectiveness of the program steering committee process was assessed via a documentation review of program plans, reports and minutes of meetings in terms of their alignment with the terms of reference, and the extent to which they provided direction.

Medical record review

A sample of medical records for the two most common cancers, lung cancer and breast cancer, was reviewed to ascertain the extent to which therapeutic and diagnostic components and processes were consistent, and therefore capable of being "pathwayed".

Observation of departmental meetings

A selection of meetings was attended to observe and assess meeting processes. These included the

quality assessment meeting of the radiation oncology department, the departmental meeting of palliative care and four multidisciplinary team meetings, two each for lung and breast cancer at the two main hospital campuses in the AHSs.

Focus groups

Focus groups were held with attendees at a clinical practice improvement training program funded by QMCSP — ward nurses, nursing managers and educators and medical registrars at the two main campus sites.

Interviews with program principals

Interviews were held with the QMCSP team, area, program, departmental and ward managers and clinicians at both the Western Sydney and Wentworth campuses, a general practitioner involved with the program, and a consumer. In all, 19 interviews were held using a standard five-question open-ended schedule. Interviews took about 1 hour, were taped, transcribed and analysed. Respondents were asked:

- How policy objectives for quality improvement were being operationalised;
- How effective QMCSP was in penetrating clinical services to improve quality;
- What opportunities existed for QMCSP to achieve operational and structural change over the remaining 3 years of the program;
- What opportunities existed to facilitate QMCSP effectiveness; and
- What might be the likely barriers to QMCSP effectiveness.

Responses were categorised by the evaluator according to the factors that facilitated the uptake of quality improvement processes, those that acted as a barrier, and the opportunities that existed to improve quality in the view of the respondents. The data in these three categories were analysed using grounded theory technique, where domains and items emerge from the data content.[38-40]

Quality improvement gains

Quality improvement outcomes were not consistently categorised, quantified or measured as part of routine performance management, either at the commencement of the program, or subsequently. However, because of the high quality of process and outcome information contained in the project files, including data on what had worked well, what had not and why, the evaluator was able to order, synthesise and assess quality gains within broad categories. A set of evaluation criteria was developed against which to describe and assess qualitative program outcomes that included identifying the clinical practice component targeted for improvement, and assessing penetration of the project within the organisation, capacity for long-term sustainability, and outcomes of the project based on assessment of the facilitators and barriers to change.

Quality improvement gains, as recorded in project files and reconstructed by the evaluator for the completed projects, fell into two broad categories: firstly, those resulting from changes in communication processes (within clinical teams, between clinicians, patients and their families, and between hospital clinicians and GPs); and, secondly, those resulting from changes in practice (including practice standardisation, incident reporting, and development of indicators of performance). Gains identified from the files were checked against respondents' comments in transcribed interviews and observed meeting processes to substantiate findings in the first category, and against other forms of documentation to substantiate findings in the second.

The introduction of team meetings is reported to have improved communication and brought about better collaboration between clinicians from different disciplines, including the capacity to collectively review performance — a precursor to improving patient care processes and outcomes. During interview, nursing respondents reported that these changes had improved their working environment, their satisfaction, and, potentially, their retention in the organisation. Both consumer and clinician respondents reported that the introduction of patient and family information sessions led not only to a better capacity for patients to self-manage their conditions, but also to an improvement in the

quality of interaction between clinicians, patients and families. Further, respondents reported that the standardisation of clinical processes (such as the prescribing and incident reporting protocols documented in the project files) has led to reduction of errors and risk, and improved patient care. Importantly, as a consequence of their involvement in the program, all CS departments are now developing indicators of performance to measure, evaluate and benchmark activities.

Cost savings

A file review showed that no cost parameters were established at the outset of the program to detect either cost savings or increases associated with improving quality in the projects funded. This is a surprising omission, given the explicit objective of the project specification to empirically challenge what the Cancer Council described as unacceptable trade-offs between cost and quality.[36] Such information is important, particularly in a demonstration project, as evidence to justify funding of future quality programs, particularly in the cost-constrained environments of health. In view of the importance of this relationship, a retrospective assessment of cost savings was attempted for each completed project. Several individual projects did report cost outcomes, primarily reduction in bed stays arising from transfer of drug administration from inpatient to outpatient settings, and reduced staff overtime costs from a review of clinic waiting times. However, cost information is not available for most projects, and is not regarded as reliable.

Performance outcomes

All projects fell appropriately within tender objectives. However, the extent to which the program reconciled "the unacceptable compromise between the cost and quality of care"[36] (page 3) could not be determined. There are a number of reasons for this. Firstly, indicators of cost and quality were not formally identified, recorded and measured either for individual projects consistently or for the program as a whole. Even though the changed communication, practice and reporting processes would be expected to benefit the organisation as a whole, the absence of quantifiable evidence that they did so jeopardised the wider demonstration value of the program. Secondly, projects were not planned in a strategic or systematic way, but were isolated and fragmented, even though BPR methods were employed. Hence, synergistic gains from improvement of linked processes did not occur. Notably, only one care pathway was developed (in palliative, not in the acute or chronic phases of cancer care), that remained untested at the time of evaluation. Pathways for the acute phase of lung cancer are reported by program project officers to be presently under development.

Overall, the initial phase of the program has not yet led to the coherent application of quality improvement principles and practices across the CS program as intended, even though people involved in the program are clinical experts, are trained in practice improvement techniques, are well motivated to succeed and are well resourced to do so.

The results of this evaluation suggest that these attributes are not sufficient to know how work actually gets done, how well people relate to each other, whether they agree about the objectives and direction of change and how well clinical and administrative objectives are integrated. Even where circumstances appear to be favourable, change is not easy.

Enabling factors

Reporting on program outcomes alone is not sufficient to understand why particular outcomes were achieved and others were not. To do this, other factors need to be taken into account to explain why program activities and outcomes unfolded as they did. The factors identified emerged from an examination of project outcomes as recorded in project files, and from the qualitative analysis of the transcripts of interviews with respondents shown in Box 2.

Three groups of factors were identified that facilitated the uptake of quality improvement. They were: acceptance that managing quality is a legiti-

mate clinical and organisational goal; a supportive policy framework to guide practice change; and the strong support of consumers and corporate managers for quality improvement initiatives.

Supportive policy framework

The introduction of a cancer services framework[18] reinforced quality improvement techniques as a mechanism to implement the policy. The framework includes expectations that services would be delivered by multidisciplinary teams using clinician–patient communication protocols, clinical protocols and pathways, and risk reduction strategies, with performance review. Joint team meetings encouraged collaborative problem solving and brought harmony to working relationships. Hence, uncovering hidden problems and resolving conflict through effective teams became an important factor in project success.

Consumer support

The consumer consultation process undertaken at the program's inception revealed that consumers strongly supported the program's objectives. The consumer most actively involved commented positively on clinicians' understanding of the value — and limitations — of the consumer voice in care planning. Importantly, consumer membership on the program steering committee acted as an effective feedback mechanism to the community.

Management support

At interview, corporate managers voiced strong support for the program, for three reasons. First, it complemented organisational goals, specifically through its potential to link the management of cost and quality. Second, this has helped to build awareness and a management capacity throughout CS and the organisation as a whole. Third, the program has fostered interest in quality improvement processes in other clinical programs.

Inhibiting factors

Barriers to the uptake of quality improvement techniques were numerous, and occurred at all levels of the organisation.

Policy barriers

Respondents commented that the policy documents that existed to assist them to improve quality did not provide sufficient guidance in their complex management and clinical roles. Information was not compiled into one easy reference, but dispersed over multiple documents. Contradictions arose between policy and practice objectives that served to neutralise action. Such contradictions were found between AHS and hospital jurisdictions and between legal and health portfolios. An example of the former is the emphasis given to clinical managers' direct patient care role that impeded their release for strategic management and planning purposes. An example of the latter is the legal imperative to protect patient privacy that counteracted the health imperative to share information. The need for ethics approval for quality improvement activities hampered motivation and disrupted effort. Neither clinicians nor health service managers were in a position to resolve these conflicts, because they either were not sufficiently senior in authority or did not possess the necessary level of knowledge and skills to do so.

Organisational barriers

Organisational barriers included restrictions on access to data and misalignment of organisational objectives. Managing conflicting organisational priorities impeded QMCSP flexibility and timely response to presenting need. QMCSP personnel could not access adverse event and patient complaint data, which are both essential in analysing quality and patient safety problems and developing appropriate strategic responses. Misalignment of organisational objectives was evident in the differing, and often conflicting, objectives of the corporate quality unit and those of quality units located in clinical programs.

Barriers in the program strategy

The approach to project selection, employed to gain buy-in by appealing to the interests of individual clinicians, was effective in the short term. However, it tended to fragment the pro-

gram and potentially jeopardised sustainability beyond the tenure of particular individuals.

Generic quality improvement techniques learned in training were not linked systematically to manage the entirety of the clinical processes involved in treating a particular condition. Hence, gains from improvements in organisationally-linked processes (such as the connection between clinical processes of diagnosis, treatment and review across multidisciplinary teams, wards and clinics that treat patients in common) could not accrue. The isolation and fragmentation of individual projects potentially negated the integrating objectives established through early consumer consultation and systems audit. Additionally, the vast numbers of clinicians identified as delivering care to patients in particular cancer case types strongly suggests that coordination, integration and standardisation of care components delivered by dispersed interdisciplinary clinicians is an essential element of quality management.

Program barriers

There was no performance framework within which to assess the program and manage performance. Hence, effort and resources were not targeted to identified goals, nor was performance evaluated. This fed into the temptation for senior managers to use QMCSP staff to fill organisational gaps, such as data collection activities, that diluted the program's overall effectiveness. Unfamiliarity with the language and concepts of quality improvement excluded some members of staff from involvement, including, importantly, administrative staff. More widespread unfamiliarity with qualitative methodologies detracted from the development of strategies to address non-technical problems.

Barriers put up by individual managers

We found that medical managers were not leading or driving the change process. The impetus for change, gained early from enthusiastic participants in training programs, dissipated where resolution of problems was not in the power of these participants, but dependent for execution on the authority of managers. Managers' absence from change process discussions, a signal to medical clinicians to also opt out, left nurses and allied health clinicians frustrated with their efforts to review and change practice. Where the quality of collaboration depended on individual personalities and their particular interests, the embedding of change in linked, systematic, impersonalised routines of care could not occur.

Barriers in committee processes

Steering committee processes did not always provide the clarity of purpose, direction and advice needed for such an innovative venture. Differences of opinion among committee members and uncertainty about priorities at times led to conflicting goals, and irregular committee meetings meant that program activities were often ratified after the event. Without committee scrutiny and advice, the authority necessary for program staff to address complex problems was absent, including those that required action at senior levels of the organisation, and beyond. Assumptions that quality initiatives were predominantly clinical and technical meant that the interpersonal, interprofessional and interorganisational contradictions that impeded quality improvement were not addressed.

Conclusion

Organisation processes and social relationships are critical

The quality improvement literature is replete with examples of best technical practice intended to provide clinicians with direction for practice based on evidence. These papers tend to overlook the ways that care is organised and the role of effective social relationships in enabling the implementation of good technical quality. These two dimensions underpin the attitudinal, behavioural and practice change that managing quality implies. This demonstration program builds on existing knowledge by illuminating the multifaceted nature of quality management and its three constituent dimensions: the quality of technical processes, the quality of organisational processes, and the quality of social relationships.

Our findings suggest that establishing a supportive organisational environment means recog-

nising, and acting on the recognition that organisational process efficiency is as important as clinical process efficiency. In the case of cancer care, the span of the organisation is wide, comprising many complex interconnected procedures carried out by a diverse clinical and non-clinical workforce dislocated geographically. Systematising and standardising the routine components of care — through such tools as guidelines, pathways and protocols — allows clinicians and managers to work in widely dispersed networks armed with knowledge about how the process works in its entirety and their part in it. Using a structured process to organise and manage care, and routinely measuring and reviewing care outcomes, brings knowledge about what worked and why, and what can be improved and how.

Secondly, the quality of social relationships is a precondition for the problem identification, solution generation and implementation needed to organise care in the manner described above, and appears to be a learned response. Clinicians from diverse disciplinary backgrounds with different knowledge bases need to acquire the capacity to constructively plan care, to collaboratively review outcomes, and to harmoniously negotiate and revise therapeutic and diagnostic processes. Knowing what team processes are effective and promoting them as part of capacity building is important in engaging multiple and diverse caregivers in the types of conversations needed to integrate the processes of care for a single patient and for entire patient populations.

Finally, achieving organisational, social and technical outcomes is dependent on the capacity of managers and clinicians to know, and do, what the organisation requires of them. Performance management frameworks can bring unity and direction to clinical and management activities to plan, coordinate, deliver and evaluate care across the continuum. Such frameworks can encompass methods to manage the cost and quality of care for clinical case types, and simultaneously to build the organisational capacity to do so. Unless programs for change take account of the multiple dimensions of health services, cost and quality objectives will remain individual, oppositional and fragmented, rather than integrated, systematic and sustained.

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Competing interests

Roslyn Sorensen was employed as a consultant to undertake the evaluation. Anne Lloyd is employed as the project manager for the Quality Management in Cancer Services Program.

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