

Connecting funds with quality outcomes in health care: a blueprint for a Clinical Practice Improvement Payment

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Abstract

There are significant geographic variations in the quality of health care, often with substantial gaps between what is known to be achievable and what is actually achieved in practice. This is a global problem that has persisted for many years despite a variety of conventional quality improvement initiatives. Attention has therefore recently turned to realignment of funding with specified levels of desired quality of care as an alternative. This paper outlines one approach that will be introduced as a pilot in Queensland.

Aust Health Rev 2007; 31 Suppl 1: S54–S58

THERE IS INCREASING DISPARITY between the rate of growth in diagnostic and therapeutic options, and the ability of health care organisations to implement these innovations equitably, efficiently, and safely. This is exemplified by:

- wide variations in death rates from the same condition treated in different hospitals;^{1,2}
- the lack of positive correlation between expenditure and outcomes;^{3,4}
- the failure to provide half the population with health care for which there is good evidence;⁵ and
- the 10% risk of adverse events caused by the processes of health care.^{6–8}

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What is known about the topic?

Pay-for-performance mechanisms are being used increasingly in the United States to improve the quality of health care.

What does this paper add?

This paper describes the principles underlying the Queensland Health pay-for-performance pilot, including real-time electronic data collection, collection of both process and outcome indicators, use of statistical process control and service-focused payment.

What are the implications for practitioners?

The Queensland Health pay-for-performance pilot is due to commence in July 2007 and the evaluation findings may provide advice for others considering similar initiatives.

Not surprisingly, this has caused some despondency. A recent survey of 500 doctors in five countries with different types of delivery systems found that 40%–60% considered that the quality of care they could provide was deteriorating, and that this decline would probably continue in the future.⁹ A similar survey of nurses in four countries found that 17%–45% thought that the quality of care in their hospitals had deteriorated in the past year.¹⁰

Potential causes and cures

These gaps between what is known to be achievable and what is actually achieved in practice are disconcerting, not only because of their size and frequency, but because of their intractability, as they have been well known for decades but have remained largely unchanged over this period.¹¹ There is probably no single cause of this failure, but no shortage of speculation. Suggestions have ranged from the impact of cognitive and motivational impediments,¹² to the nature of health care as a complex adaptive system.^{13,14} These are

intriguing ideas for research, but the fundamental characteristics of humans and complex systems take a long time to understand, and even longer to change. There are, however, proven process improvement methods that are well established in other industries, such as lean thinking, six sigma, and statistical process control, that are now attracting attention in health care.^{15,16} Statistical process control has been shown to be particularly effective in detecting trends in poor clinical outcomes and other aberrant behaviour years before they were otherwise detected,¹⁷ and in unravelling the causes of impaired patient flow through hospitals.¹⁸ The relatively late adoption of these techniques is probably due to the greater familiarity of biomedical researchers with carefully controlled clinical trials or laboratory experiments. Such methods are essential to establish causal mechanisms with high certainty, but are less useful in clinical practice where the prime task is to rapidly demonstrate significant change in a less controllable environment.

Other key commercial principles that have been slow to migrate to health care include the need to maximise return on investment, and to add customer value to key transactions. This delay has probably been due to a preoccupation in recent years with the need to control costs and increase efficiency that has deflected attention away from the need to link expenditure with value:

Traditionally the financing debate has focused on “how” revenue and expenditure are managed with particular attention to affordability and efficiency . . . Yet these payment mechanisms are rarely designed to achieve explicit clinical care or patient outcome objectives. . . . The quality debate is primarily about “what” processes should be used and what outcomes should be achieved or, in financial terms, how to maximise return on investment.¹⁹ (p. 136)

This disconnection has recently been addressed in a number of ways that have become known collectively as “pay for performance (‘P4P’)."

Pay for performance — international examples

In 2001 the US Institute of Medicine recommended alignment of financial incentives with improved quality of care.¹¹ This probably accelerated a change that was already in progress, and a wide variety of schemes are now emerging, using three main strategies:²⁰

- selective contracting based on predefined quality expectations;
- payment differentials based on the level of quality actually delivered; and
- provider report cards that include comparative measures of quality of care.

Uptake has been rapid in the US, with a recent report estimating that more than 30 million mostly private health insurance beneficiaries are now included in over 70 P4P schemes.²¹ The shift in focus is also illustrated by the estimation that physicians are now more likely to receive a financial incentive for improving the quality of care they provide than for controlling the volume of services they deliver,²² and by the advice about how to maximise P4P income now appearing in medical journals.²³ These developments are not restricted to the private sector payers, as Medicare now pays a premium of 0.4% for a report on 10 evidence-based process measures, such as whether aspirin has been given to patients with acute myocardial infarction.²⁴ Medicare also restricts payment to hospitals that perform sufficient numbers of surgical procedures where this is known to be associated with better outcomes. These changes have now reached the legislature, with the US Congress now considering extending the scope of “medical value purchasing.”²¹

Many of these schemes have not yet been fully assessed, but there are a few early indications. One literature review found that five of six physician-level incentive schemes and seven of nine group-level schemes showed positive or partial improvements in quality, with four studies suggesting unintended effects, such as avoidance of sicker patients.²⁵ Other studies have suggested relatively modest gains in quality with rewards flowing mostly to those with higher baseline performance.²⁶ The most impressive recent evi-

dence that P4P can improve quality comes from the United Kingdom where general practitioners, paid a supplement for achieving pre-specified quality-of-care markers in 10 chronic diseases, achieved 96.7% of their available points — well in excess of the predicted 75%, and increasing their average gross income by \$US 40 200.²⁷ It seems clear therefore that P4P can drive improved quality of care, but is sensitive to the methods and thresholds that are chosen.

Queensland context and developments

Recent experience in Queensland suggests that the range of variation in the quality and safety of care and in the delivery of health care interventions of known benefit is similar to that found in the US. As elsewhere, local programs to address these variations have met with some success, but this has been relatively modest in proportion to the size of the problems. In 2005, concerns about the performance of a surgeon in a provincial hospital triggered two exhaustive inquiries and injected a sense of urgency into the search for more effective solutions. These inquiries criticised funding models that rewarded high throughput of elective surgery at the cost of attention to safety and quality, and a lack of adequate monitoring and open reporting of clinical performance.^{28,29}

In response to this criticism, an extensive reform program is underway. Of particular relevance in this context are:

- imminent changes in the funding model to one based on local population needs and casemix complexity; and
- reporting of hospital performance indicators using statistical process control methods to detect aberrations at the earliest opportunity.

Casemix funding has equity and efficiency advantages over historical activity-based models, but is not designed to directly promote high quality care. It may in fact indirectly support poor outcomes through payment for the complex care necessary to correct serious and avoidable adverse events. Modifications to the coding algorithm

may circumvent this aberration, but incentives to promote good care would be preferable. The new funding model in Queensland will therefore include a pilot of a “Clinical Practice Improvement Payment” to test the effect of such incentives. This paper outlines considerations in the development of such a payment.

Principles of clinical practice improvement payment (CPIP)

In theory, funding could be connected to the quality of care provided through any of Donabedian’s three well known determinants — structure, process or outcome.³⁰ Each has advantages and disadvantages:

- *Structural indicators* — staff, offices, IT support etc. are tangible and thus more easily counted and funded, but may be only remotely connected with quality.
- *Process of care indicators* have significant advantage as they
 - are measurable,
 - predict outcomes, provided there is a good evidence base, and
 - provide a clear path for action as process changes are within the responsibility of the clinical service.
- *Outcome indicators*, such as mortality and morbidity, are the ultimate hallmarks of quality, but are often open to dispute as they are
 - disease-severity and complexity dependent, and
 - often the end result of multiple interventions by multiple services and are thus difficult to disaggregate and attribute accordingly.

Competition based solely on outcomes has been advocated as the route to improvement,³¹ but a good case can clearly be made for measuring processes as well as outcomes.

The Queensland CPIP pilot will be based on these considerations, with high priority targets and the most effective methodology.

Choice of target areas

The pilot will be limited to a defined area of practice selected on the basis of:

- *A high disease burden* — as reflected by high incidence, mortality, morbidity, or cost.³²
- *Well defined single diagnostic group or intervention* — to increase chance of demonstrating an unequivocal and attributable effect.
- *Large gap* — as reflected by significant variations from place to place between optimal and current clinical outcomes and/or practices. By definition, some services have already achieved high performance, providing an achievable target for others.³³
- *A good evidence base* — to concentrate attention on interventions of proven value.
- *Clinician support* — to increase uptake and sustainability. The relevant interventions will also need to be within the control of these clinicians.

Methods

Effective implementation will be aided by:

- *Real time electronic data collection* — to shorten the response time and clarify the link between measurement and payment.
- *Collection of both process and outcome indicators* — for reasons discussed above.
- *Use of statistical process control* — to rapidly demonstrate significant trends.
- *Service-focused payment* — payment will be provided as a defined percentage of the casemix payment to go to the relevant clinical service to reflect ascending levels of performance:
 - Level 1: Collection of agreed datasets
 - Level 2: Improvement in predefined process indicators
 - Level 3: Improvement in predefined outcome indicators.

Another payment component will probably be made available to the district or hospital to enhance executive support, and to recognise the potential of this model of funding to generate costs outside the relevant clinical service.

In the first stage, measurements and targets will be used that reflect the health care professional perspective of what constitutes successful outcomes. Later, patient-focused dimensions of care will be included such as access, symptom resolution, functional improvement and quality of com-

munications.³⁴ This will allow “global value” to be represented and measured as a combination of (and sometimes a compromise between) optimal outcomes as perceived by patients, providers and purchasers of health care services.

Conclusion

P4P models are increasingly being used by US payers but, to date, have not been used in Australia. The introduction of a new funding model in Queensland, a state with a particular focus on safety and quality because of its recent history, provides the opportunity for a pilot of a quality-related payment. Although the design of such a payment has not been finalised, this paper outlines issues to be taken into account in the design. This pilot is due to commence in July 2007 and will be evaluated and reported in due course.

Competing interests

The authors declare that they have no competing interests.

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(Received 2/11/06, revised 30/12/06, accepted 4/02/07) □