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Is New Zealand according too much importance to continuous quality improvement in healthcare?

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Abstract

In late 2003, New Zealand's Ministry of Health published a 'systems approach' to help guide and plan quality improvements in the nation's health and disability sector. This approach emphasises a need for continuous quality improvement. We argue that the Ministry should align itself less exclusively with the 'the small steps of continuous quality improvement' and 'maintaining the gains'. Instead, it should encourage the adoption of a variety and combination of quality improvement strategies that include continuous quality improvement between the discontinuities that can occasion a need to re-engineer core processes for revolutionary, quantum gains in quality and safety.

In September 2003, New Zealand's Ministry of Health published 'Improving quality (IQ): A Systems Approach for the New Zealand Health and Disability Sector.'[1] As part of a strategy for nationally consistent standards and quality assurance programmes, it describes a systems approach to help guide and plan improvements in the sector. It suggests a means of supporting and coordinating quality improvement activities underpinned by a shared vision of people 'receiving people-centred, safe and high-quality services that continually improve and that are culturally competent.'[1]

IQ defines quality improvement as including continuous quality improvement and quality assurance; and signifies 'a commitment to supporting continuous quality improvement.' We commend this focus on quality improvement. However, we also wish to question the explicit emphasis given in IQ to continuous quality improvement, alongside the relative neglect of other approaches to quality improvement.

This discussion is timely because we,[2,3] and others such as the Royal New Zealand College of General Practitioners,[4] have recently championed continuous quality improvement as a quality improvement approach. This has reflected to a large degree the influence of Don Berwick. As President and CEO of the Boston-based Institute for Healthcare Improvement, Berwick has successfully popularised (within healthcare) the continuous quality improvement approach developed by Deming, Juran, and others.

Limitations of continuous quality improvement

Three sets of difficulties bedevil continuous quality improvement in heathcare. The first is that, despite 'pockets of improvement,' there is little scientific evidence that continuous quality improvement improves the quality of healthcare among large numbers of professionals or organisation-wide.[5–7] The effectiveness of initiatives for continuous quality improvement appears to be highly variable, possibly reflecting their diversity and changing nature, and differences in organisational context.[7]

The second set of difficulties reflects 'disparities between the rhetoric and reality of continuous quality improvement'.[8] For example, continuous quality improvement

seeks to 'drive out' fear—while promoting external quality assessments, such as practice accreditation, that can stress workers and threaten their job security.[2,3,8] Expectations on workers to perform with increasing efficiency can produce the same adverse effects.

Among other examples are a tendency for unequal benefits to workers, a requirement for leadership, and the dominance of managerial perspectives and agendas that contradict the ideals of bottom-up participation, teamwork, and overall commitment.[8] The focus of continuous quality improvement on slow, incremental change to existing individual processes (through analysis, standardisation, and improvement) tends to discourage substantial learning and innovation.[9] Continuous quality improvement requires investment in long-term change, but health services in the public sector are typically undercapitalised and tend to focus on the management of short-term crises.[8]

Thirdly, systematic tools of continuous quality improvement (such as Shewart's Plan-Do-Check-Act [PDCA] cycle10) were popularised in, and for, 'fairly slow moving industries, such as the automotive industry.'[11] These tools are largely unsuited to the modern-day environmental conditions of accelerating technological change: uncertainty, high complexity,[12] and patient 'bargaining.'[13]

Questioning the search for processes to reduce and control medical practice variations that are 'out of control,' these conditions demand health services that can respond creatively.[14] Rather than seek to prevent errors upstream, this search for (and encouragement of) 'positive variation' recognises that 'errors' are inevitable[11] (and indeed desirable) for their potential to define opportunities for learning and innovation.[11]

We support, nevertheless, the use of continuous quality improvement. The three sets of difficulties are offset by progressive features of continuous quality improvement. These features include the degree to which worker involvement is valued and the ability of continuous quality improvement to help us understand and improve quality rather than merely add to the proliferation of studies documenting unintended variations and quality deficits.[15]

Hence, the need to grapple with the sorts of contradictions stated above should not deter the use of continuous quality improvement[7,8]—rather, this need invites the use of continuous quality improvement as one of multiple, concurrent approaches.[7,16] This is because 'continuous improvement is not enough'[9] and other approaches cannot substitute for continuous quality improvement. They can instead support the implementation of continuous quality improvement as, for example, a series of small-scale projects.[17] From this perspective, continuous quality improvement is merely a tool—not the only one, and not necessarily the most important one—to help healthcare organisations, teams, and individuals improve quality in healthcare.

Elsewhere, we have discussed other quality approaches—such as quality assessment, quality assurance, and clinical audit.[2,18] Meanwhile, contemporary, systemic and practical approaches to management[19] include:

- The contingency approach model, which emphasises the fit between organisations and their environments,[20]

- The‘probe-and-learn’ model of continuous innovation, which ‘underweights the ‘Plan’ stage depicted in the PDCA cycle and ‘overweights’ the ‘Do’ stage in a rapid iterative process that seeks out error to learn from,[11] and
- Business process re-engineeering.[21]

Process re-engineering

We wish to suggest how insights from process re-engineering can complement the commitment of the Ministry of Health to continuous quality improvement and quality assurance. Compared with continuous quality improvement, and its focus on incremental improvements in performance, the top-down approach of process re-engineering emphasises greater and more rapid change over a shorter time period. It involves fundamental, not superficial, rethinking; exploits information technology capability in the revolutionary redesign of macro-level organisational processes;[21] and can be adapted locally to incorporate factors that are critical to successful change management in the public sector.[22] Integral to the approach of process re-engineering is the concept of ‘discontinuous thinking’, by which is meant a total change in thinking.

Discontinuous thinking

Discontinuous thinking anticipates the potential for discontinuous change—including sudden, possibly catastrophic change. It questions whether continuous improvement is always possible and desirable in a discontinuous world and challenges linear and sequential thinking about problems that require solution. It uses a holistic perspective to catalyse breakthrough processes and then seek the problems they might solve.

Theoretical support for discontinuous change comes from biology, quantum physics, and other sciences.[19] Organisational cybernetics[23] demands that changing organisations operate discontinuously. Catastrophe theory,[24] complexity theory,[12,25] and chaos theory[26] also reveal how discontinuity (including unanticipated changes, and predictions that fail to materialise) is at least as natural as continuity.

Process re-engineering enables organisations to introduce ‘discontinuous improvement’ into their work culture. This overcomes the problem that change in small, incremental steps may be inappropriate when an urgent need arises to quickly fix systems that severely compromise patient safety. For example, the Cartwright Inquiry[27] and major inquiries into hospital services in Christchurch[28] and Gisborne[29] suggest such a need, notwithstanding that radical change can yield incremental improvements and vice versa.[30] Also, Kaitaia provided an excellent example of the need for process re-engineering (see Box 1).[13]

Box 1. Case Study: Improving quality (IQ) and process engineering in Kaitaia

In 2002, an Independent Review Team (IRT) reported its findings on Kaitaia health services.[31] It found that, although the presenting issues were retention of 24-hour surgery and caesarean sections at Kaitaia Hospital, the real issue was system failure underpinning the poor coordination of services between Northland Base Hospital and Kaitaia Hospital, poor primary-secondary care integration, and the poor health status of Maori.
The IRT recommended significant process re-engineering as well as continuous quality improvement. This involved: Accident and Medical Clinic development; retrieval system improvement and protocols; increased outpatient clinic services; an Integrated Health Organisation involving the Primary Health Organisation and hospital services; integrated care; community governance structures; new systems for obstetrics, women's care, and anaesthetics; new investment in information technology with integrated systems; and numerous other changes.
Signifying more than continuos quality improvement (CQI), these proposals called for change management involving systems re-engineering.

Process re-engineering also surmounts the problem that if what is already done operates predictably at an unacceptable level and adds no value to a service, improving it incrementally is likely to be a false gain and a cost to the system.[19] This situation can occur where technology is obsolete, such that the entire process requires changing through systematic process improvement. Such a requirement is not out of place in the public sector, where policy and direction can change suddenly and dramatically.[22]

In contrast, where 'special cause' variation is present, its origin should be examined and managed; for example, in accordance with continuous quality improvement. This is necessary to eliminate negative special causes of the variation, and make positive special causes (such as an improvement effort) part of the normal process. Continuous quality improvement can also overcome limitations of process re-engineering. These include the stress and costs of radical change, and a top-down, business focus on operational processes, which can weaken the focus on patients.[9]

Conclusion

With exceptions,[32] continuous quality improvement and process re-engineering have seldom been integrated. However, recognition is increasing that these quality movements can complement and enhance one another.[19] Each focuses on patients and processes, including training and teamwork, to produce measurable results. Each helps to address the other's deficiencies. To keep pace in a fast-changing, complex and unpredictable world, the Ministry of Health should thus align itself less exclusively with 'the small steps of continuous quality improvement' and 'maintaining the gains.'[1]

Thornley and her colleagues[33] suggest that, apart from incremental changes in practice, 'more radical change is required'—meaning a need 'to revolutionise our thinking about quality' by focusing more on quality improvement than quality

assurance. While tending to agree—we have indicated in this paper a further need to delineate and discuss the nature of the quality improvement strategy required for such 'radical change.' This is because, as a means of quality improvement, continuous quality improvement is itself evolutionary rather than revolutionary. Furthermore, in our opinion, the Ministry of Health accords too much importance to continuous quality improvement.

Just as in areas such as guideline implementation,[34] we see a need for the Ministry to encourage the adoption of a variety and combination of quality improvement strategies—including the approaches of continuous quality improvement and process re-engineering.

Which of these approaches is most appropriate depends on the individual circumstances. However, coordinated within a systems-based framework such as clinical governance, continuous quality improvement can (and should we believe) be used continuously between the discontinuities that can occasion a need to re-engineer core processes for revolutionary, quantum gains in quality and safety.

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