

ResearchSpace@Auckland

Journal Article Version

This is the publisher's version. This version is defined in the NISO recommended practice RP-8-2008 <http://www.niso.org/publications/rp/>

Suggested Reference

Shuker, C., Bohm, G., Bramley, D., Frost, S., Galler, D., Hamblin, R., . . . Merry, A. F. (2015). The Health Quality and Safety Commission: making good health care better. *New Zealand Medical Journal*, 128(1408), 97-109. Retrieved from <https://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2015/vol-128-no-1408/6419>

Copyright

Items in ResearchSpace are protected by copyright, with all rights reserved, unless otherwise indicated. Previously published items are made available in accordance with the copyright policy of the publisher.

<http://www.nzma.org.nz/journal/subscribe/conditions-of-access>

<http://www.sherpa.ac.uk/romeo/issn/0028-8446/>

<https://researchspace.auckland.ac.nz/docs/uoa-docs/rights.htm>

VIEWPOINT

The Health Quality and Safety Commission: making good health care better

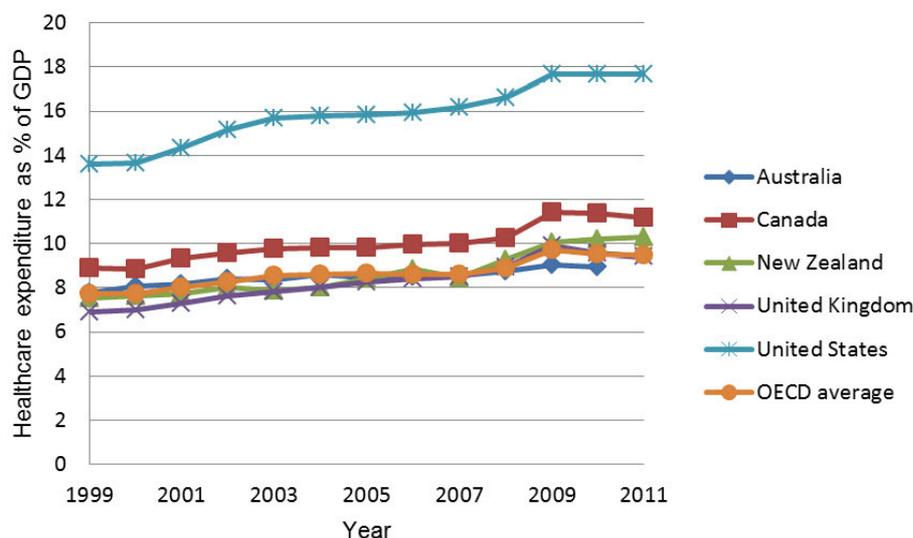
Carl Shuker, Gillian Bohm, Dale Bramley, Shelley Frost, David Galler, Richard Hamblin, Robert Henderson, Peter Jansen, Geraint Martin, Karen Orsborn, Anthea Penny, Janice Wilson, Alan F Merry

Abstract: New Zealand has one of the best value health care systems in the world, but as a proportion of GDP our spending on health care has increased every year since 1999. Further, there are issues of quality and safety in our system we must address, including rates of adverse events. The Health Quality & Safety Commission was formed in 2010 as a crown agent to influence, encourage, guide and support improvement in health care practice in New Zealand. The New Zealand Triple Aim has been defined as: improved quality, safety and experience of care; improved health and equity for all populations; and best value for public health system resources. The Commission is pursuing the Triple Aim via two fundamental objectives: doing the right thing by providing care supported by the best evidence available, focused on what matters to each individual patient, and doing the right thing right, first time, by making sure health care is safe and of the highest quality possible. Improvement efforts must be supported by robust but economical measurements. New Zealand has a strong culture of quality, so the Commission's role is to work with our colleagues to make good health care better.

New Zealand has one of the best value health care systems in the world. In absolute terms we spend less per capita on health care than Australia, Canada or the UK (and about a third the amount spent in the USA), and the health outcomes of our system compare well with all three of these countries.^{1,2} And yet too many of our patients either fail to access services essential for their health, wellbeing and productivity, or fall through gaps in safety when they do.

Our expenditure on health, like that of many other countries, has increased year on year, from 7.5 percent of gross domestic product in 1999 to 10.3 percent in 2011 (see Figure 1). This proportion is higher than the OECD average and higher than Australia and the UK, though not the USA, where it is now 17.7 percent.^{2,3}

Figure 1. Health care expenditure as percentage of GDP

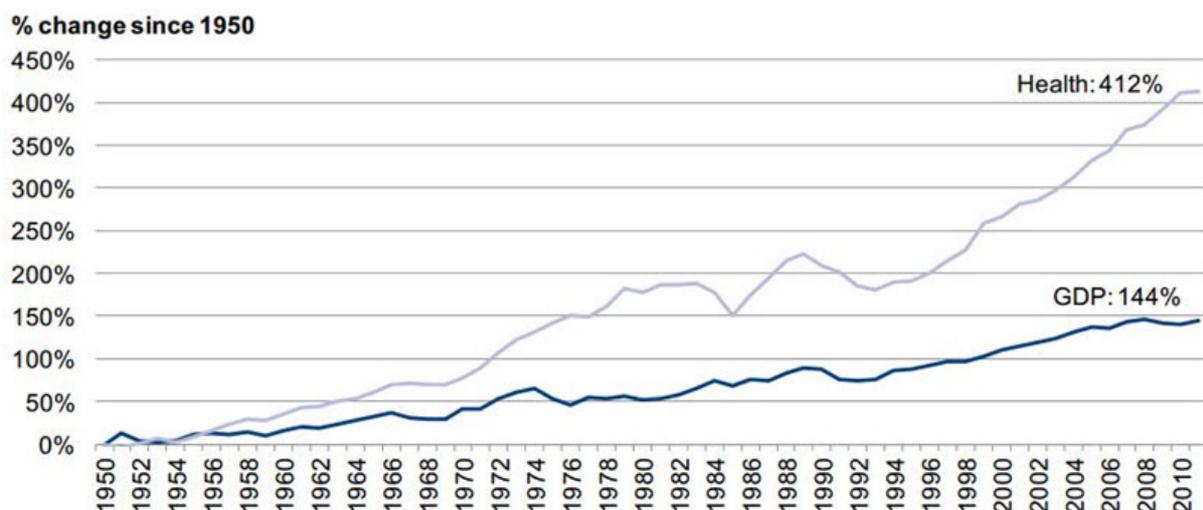


Source: OECD Health Statistics 2013

Spending more on health care leaves less money for other priorities such as education, law and order, and housing, which in themselves are prime determinants of the health of the population. Furthermore, the rate of increase exceeds the increase in GDP and simply cannot be sustained (see Figure 2).

Despite this increase in expenditure, and despite the very good overall outcomes achieved for the vast majority of our patients, things still go wrong.

Figure 2. Core Crown health expenditure per capita and GDP per capita, indexed real growth, 1950–2011



Source: The Treasury.

Failures in care: some examples

James Jones (these selected case studies, though real, are anonymised. In particular this case is one of the adverse events reported to the Commission), an elderly rural man, was mobile and living at home. He had a serious fall and was hospitalised. On the ward, stretching out to get a walker that was too far from his chair, he fell again and fractured his hip. He is now in a rest home.

After mitral valve surgery, David Murray found his wound weeping. It took two weeks of operations to remove the infected tissue and drain the wound. Six weeks of IV antibiotics followed. The painkillers reduced his concentration span to the point where he couldn't read a newspaper.

Sean Black, a registered nurse, was a ward manager on a 'typically busy, chaotic day.' A nurse asked him if he could administer the 2 pm IV antibiotics. 'I said, yes, of course, overconfidently. It was a four-bed room. There were two ladies, one sitting, one lying in bed. My brain told me Mrs Smith was the one lying in bed.' He gave the antibiotics to the wrong patient. 'It was as I was walking away I realised. I remember that tunnel vision, everything-closing-in feeling of "I've made a terrible error."' He told the senior staff nurse and the woman's doctor and the patient herself. 'Straight away I went and sat with the patient and told her what I'd done. I said, "We'll keep a close eye on you, I'm incredibly sorry."'

These stories are typical of the 558 serious adverse events reported by health and disability providers in 2013/14 and subsequently published by the Health Quality & Safety Commission (the

Commission) in October 2014.⁴ The aim of this reporting, and the analysis that goes along with it, is not finding who to blame but learning from events so they may be avoided or prevented in the future.

As Sean says:

Unless you've done this job you shouldn't pass judgment on an error. I was a good ward manager and a good nurse. I became a better one because on this occasion I wasn't. I made a mistake.

These are not isolated examples. In 2002, Davis and others reported that 12.9 percent of New Zealand public hospital admissions were associated with an adverse event, half of which were considered preventable.⁵ Similar results have been found in the UK,⁶ Spain,⁷ the EU,⁸ and the USA.⁹ More recent New Zealand studies found some kind of harm (however temporary or minor) was associated with nearly 30 percent of hospital admissions.¹⁰

In New Zealand hospitals 170 reported falls were associated with a hip fracture between 2010 and 2012. Direct costs of falls in hospitals in 2010-11 were \$3 to 5 million and the total resources used by falls could well be 2 to 2.5 times higher—about \$6 to \$12 million per annum.¹¹ Around half of those who fracture their hip no matter where will thereafter require support with daily living or mobilising, and nearly 27 percent of older patients with a hip fracture will die within a year.^{12,13}

The average rate for foreign bodies left in during a surgical procedure in New Zealand was 10.8 per 100,000—almost double the OECD average.¹⁴ In 2012, 759 patients suffered deep vein thrombosis/pulmonary embolisms while still in hospital or readmitted within 28 days of surgery, requiring 2178 extra bed days. Estimated cost: \$1.7 million.¹⁵

The establishment of the Health Quality & Safety Commission

The Health Quality & Safety Commission (the Commission) is a crown agent established in 2011 to influence, encourage, support and guide improvement in health care practice in New Zealand.

In 2009 the Report of the Ministerial Review Group ('the Horn report') recognised that any national body designed to improve quality and safety in New Zealand health care had to be independent of government to earn the support and trust of the sector that is integral to the chances of any improvement occurring.¹⁶ A crown agency must by law give effect to government policy when directed by the responsible Minister. This new agency would however be 'independent of the regulatory, funding, and performance monitoring agencies of government, report directly to the Minister and have its own dedicated staff.'¹⁶

Effective quality improvement is a matter of hearts, minds, and culture. Even those interventions to improve quality and safety that are rigorously evidence-based, with records of success internationally, are unlikely to be sustained if forced upon district health boards and clinicians. The trust, confidence and alliance of health care professionals is essential if change in practice is to be embraced and become embedded. This trust and confidence must be earned.

In other words, though giving effect to government health policy, this agency was 'to leverage the experience of local centres of excellence across the whole system and to leverage the best international experience and expertise for the benefit of New Zealand as a whole.'¹⁶ The Commission was to achieve this through the centralised collation and monitoring of data critical to demonstrating and motivating success, through encouragement, promotion and support of programmes adapted to the contexts of individual district health boards (DHBs), and by being a repository of international best practice and expertise.

The Health Quality & Safety Commission builds on the work of others. In the last fifteen years the international evolution in quality and safety has been rapid and the local response to developments has been dynamic (see sidebar). The New Zealand Health and Disability Act 2000 had a requirement that the Minister be advised on quality assurance matters. The National Health Epidemiology and Quality Assurance Advisory Committee (EpiQual) was formed and oversaw the establishment of the first

National Mortality Review Committees, introducing for the first time the requirement for national reporting and analysis of unanticipated deaths.

(This work has continued and expanded under the Commission. Four ongoing committees are dedicated to the review and analysis of perinatal and maternal mortality, deaths of children and young people, deaths resulting from family violence, and deaths associated with surgery.)

EpiQual ran for three years before being reformed as the Quality Improvement Committee (QIC) in 2007, chaired by Pat Snedden. QIC was designed to provide independent advice to the minister and funding was provided for a suite of quality improvement programmes, including optimising the patient journey, management of health care incidents, infection prevention and control, and safe medication management.

After three years of progress the Government, acting on the Ministerial Review report's recommendations, established the Health Quality & Safety Commission under section 59 of the Health and Disability Act (for the Commission's board members, key staff and clinical leads see <http://www.hqsc.govt.nz/about-the-commission/our-people/>).

The Triple Aim

The Commission began with an intensive period of consultation with people from as many parts of the health and disability sector as possible, taking stock of what was already being done, and evaluating the likely effectiveness and return on investment of different options.

A key outcome from this work was an overarching goal, approved by the Minister of Health and agreed on by the Commission, the National Health Board and the Ministry of Health. It is New Zealand's form of the Institute for Healthcare Improvement's (IHI) Triple Aim—the simultaneous pursuit of three dimensions:¹⁷

- Improved quality, safety and experience of care
- Improved health and equity for all populations
- Best value for public health system resources

The New Zealand Triple Aim differs in two essential ways from the IHI original.¹⁸ 'Improved health and equity for all populations' is an explicit reference to the fact that Māori and Pacific populations do poorer on many indicators of health outcome and access, and that reducing this inequity is a priority for the entire health care sector.

'Best value for public health system resources' means that there is no agenda to reduce health care expenditure. Rather, unless GDP per capita increases then health care spending cannot go on rising, so we must make certain that we do not waste the resources that Government has allocated to health care. Value is what matters—benefit for patients from every dollar spent.

Lending a hand: doing the right thing

Two fundamental objectives drive progress toward the Triple Aim.

The first: we must do the right thing. This means providing care based on the best available and the most pertinent external clinical evidence, whether that be randomised controlled trials or at the least, expert consensus, integrated with individual clinical expertise, and the patient's expertise innate in their own experience.¹⁹⁻²¹ Our goal is meeting the needs and values of the individual patient.

The IHI's president and CEO Maureen Bisognano says we must ask, in Barry and Edgman-Levitan's phrasing, "What matters to you?" as well as "What is the matter?"²² This paradigm shift is easy to grasp in relation to the difficult questions around care near the end of life—few would advocate excessively aggressive treatment that is likely to be futile.

This principle applies throughout health care. There is, unfortunately, substantial variation between different providers and institutions in care delivered that does not reflect differences between patients or even differences in resource. Dartmouth in the USA have since 1996 led the way in demonstrating this variation.²³ In some cases, the rate of carotid endarterectomy for example, the variation in the USA is ten-fold. Similar variation, no less remarkable if less extreme, are reported in New Zealand.²⁴⁻³¹ There was, for example, in 2011-12 a four-fold variation in the rate for surgical insertion of a grommet to relieve otitis media with effusion in a child less than four years old: 21.1 per 1000 children in one part of the country received this treatment; in another, only 5.4.³²

Another potent example is the treatment of diabetes, sufferers of which are expected to double in New Zealand in the next 20 years. The number of medical and surgical bed days occupied by people with diabetes in New Zealand varies between DHBs up to three-fold, for no clear reason. In 2013 the number of total medical and surgical bed days devoted to people with diabetes (25.2%) in one DHB was three times that in another (8.1%).³³

These data provide no insight into which rate is optimal, but, having ruled out differences between case mix, the highest and lowest rates cannot both be right. The likelihood is that some patients are receiving treatments that are not effective, or that don't actually address the things that have really brought them to their doctors. This 'overtreatment' represents a serious opportunity cost and creates risk without prospect of benefit. At the same time, it is likely that other patients are failing to receive effective treatment that addresses their real needs. This 'undertreatment' is an equally important failure. Understanding inappropriate (i.e. provider-driven) variation and replacing it with appropriate (i.e. patient-driven) variation is probably the single most important key to affordable, high quality health care.

The Commission's Health Quality Evaluation team has, therefore, introduced the New Zealand Atlas of Healthcare Variation, first published in 2012, and is progressively increasing its content in constant sector consultation to ensure the accuracy of the data and the pertinence of the accompanying commentary. The Atlas is a powerful new tool in the New Zealand context to improve the quality of health care through stimulating thinking about the right things to do (<http://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/>).³⁴

Lending a hand: doing things right

Having decided on the right things to do, the second imperative, perhaps more obvious, is to ensure things are done right, first time. The people who work in health care in New Zealand are already highly motivated in this regard—our aim is to work with front-line workers to make their efforts more effective.

Take for example a talented surgeon, nurses, allied health professionals and pharmacists undertaking a technically demanding total hip replacement supported by state of the art anaesthesia services to manage multiple comorbidities in an older patient. The value to this patient of all of this technical expertise depends critically on meticulous hand hygiene every day by everyone involved in his postoperative ward care, and also by the care with which an unnecessary fall is avoided as he mobilises. It matters too that the operation is carried out on the right patient and the right side. Specific projects that address simple process issues of this kind spread and embed principles of quality improvement that apply generally. People learn by doing, so the investment produces not only the direct benefit of the specific project but a wider benefit too: the sector's capacity and capability to effect improvement grows.

With a limited budget, a strong sense emerged that the investment already made into the projects initiated by QIC should not be wasted. These were carefully selected projects, such as the hand hygiene programme, and addressed important areas with clear problems in quality and safety. Pulling the funding on existing programmes, changing the signals and forgetting last year's messages would have been a waste of resources and not an example of responsible, long-term quality improvement. The obvious thing to do was to take advantage of momentum already built up and to continue work in

progress. The decision was made to continue and expand upon the projects the Commission had inherited, while recognising that existing and future projects must extend beyond the hospital into primary care and the disability sector.

Box 1: Current programmes

Reducing harm from falls

Falls are a major source of harm especially in aged populations, and create a massive burden for health care. Baselines established by the Commission show that on average two patients fell and broke their hip in New Zealand hospitals every week in 2012. The average cost for any serious fracture after an inpatient fall is estimated at \$26,000—that's \$52,000 a week.³⁵⁻³⁸

Ask Assess Act³⁸⁻⁴⁰ is an intervention based on the best and latest evidence. It structures screening, multifactorial assessment and provision of a care plan to people at risk of falling, connecting their risk factors with appropriate interventions. The results are assessable through a simple quality and safety marker (or QSM), which measures provision of the intervention, and an indication of outcome—reports of fractured neck of femur. The Commission has also developed interventions for signalling the risk of a fall and safe mobilizing. It is active widely in the sector in falls education and supporting falls prevention programmes.

Infection prevention and control—Health care associated infections

New Zealand studies show that 10–12% of hospitalised patients develop a health care associated infection, 20% of which are surgical site infections (SSIs).⁴¹ A recent international study put SSIs at 31% of all health care associated infections—the most common.⁴²

The Commission's current focus is on a programme of SSI surveillance in combination with three interventions for reducing site infections after hip and knee arthroplasties—common procedures with well-established interventions and available robust data on rates of infection. The impact of such serious infections on patients and their families is substantial, as are the costs: between 2005 and 2011 the ACC paid out \$6.3m for 526 accepted claims for site infections related to hip or knee surgery/replacements.⁴³

The interventions include standardisation of antibiotic prophylaxis; best practice use of skin antisepsis; and clipping not shaving of surgical wound sites—all interventions with a sound international evidence base.

The Commission is also sponsoring a nationally standardised approach to generating and reporting on successful hand hygiene programmes in individual DHBs, as well as the central line associated bacteraemia (CLAB) collaborative and intervention. The national rate of compliance with the WHO Five Moments for Hand Hygiene is currently 73%, still well short of Scotland's self-reported national rate of 97%.⁴⁴

Reducing perioperative harm

The major focuses of the perioperative harm programme are bringing all New Zealand clinicians and surgeons on board with proper use of the WHO Surgical Safety Checklist, briefings and debriefings, and with the need for venous thromboembolism prophylaxis. Haynes et al's original 2009 study demonstrated a 47% reduction in perioperative mortality (from 1.5% to 0.8%) and a 36% reduction in inpatient complications (from 11% to 7%) through use of the Checklist.⁴⁵ There is an extensive literature since, testifying to its success and its adaptability.⁴⁶

Medication safety

Medication safety is a complex area with multiple objectives that has been in process since the days of QIC. The Commission is working with the National Health IT Board on improving the safe prescribing, dispensing, administration and monitoring of medicines via electronic medication management and a standardised paper national medication chart. Another major objective is electronic medication reconciliation to quickly and accurately establish what medications patients are taking within 24 hours of admission, transfer or discharge from hospital. We are also working on interventions to improve the safety of high risk medications, such as opioids, and high risk patients, such as older people on multiple and complex drug regimes.

Shining a light: measurement and data

In 2008, the UK NHS Next Stage Review final report was unequivocal: ‘we can only be sure to improve what we can actually measure.’⁴⁷ Measurement is integral to improvement of any undertaking, particularly in health care.⁴⁸ The Health Quality Evaluation team has established a suite of measures that can be used like dials on a dashboard to monitor the state of health care nationally over time and at different DHBs at any one time, and to assess how quality improvement interventions are put into practice and their effects.

The resource invested in measurement must match the value of the information obtained. The aim is not just to collect data—it is to drive improvement in patient care. We place considerable emphasis on minimising the burden (and opportunity cost) of data collection, and on ensuring that the data are reliable and the measures are sound. Measurement of the quality and safety of health care is not always straightforward and, notwithstanding the importance of measurement, common sense and pragmatism should prevail: there are times when initiatives to improve care make sense without the need for measurement, or when costs of meaningful data outweigh the potential benefits.

The Commission’s collection and use of data and measurement for health quality evaluation, the Atlas of Healthcare Variation, and efforts to address unwarranted variation in New Zealand, are the subject of a forthcoming paper.

Open for better care

What do data collection methodologies mean to a Tairāwhiti nurse who, at the unexpected death of a grandfather, knows to move his body to a single room because her ward will quickly fill with his whānau as they come to grieve?

Open for better care is an awareness-raising national patient safety campaign to promote the Commission’s programmes and interventions and involve doctors, nurses and the people they care for in the improvement of our system. Specific messages deal with programme topics, and wider messages address fundamental principles of safety and quality in healthcare—the importance of communication and teamwork in the operating theatre, for example. Clinical leads include John Barnard, Sandy Blake, Ian Civil, Josh Freeman, Nigel Millar, Arthur Morris, Miranda Pope, Gillian Robb, Sally Roberts, David Sage, and Shawn Sturland—the clinicians leading our improvement programmes.

Sandy Blake, for example, clinical lead on the falls programme and Director of Nursing at Whanganui Hospital, is doing pioneering work in reducing falls in ageing, cognitively impaired patients on her wards. Sandy is building on workshop techniques presented by NHS falls specialist Frances Healey, to cohort these patients in her ward under the observation of a single designated, trained watcher to keep them safe. Her lessons? Make the watchers special, give them recognition and the power to call in other nurses if there is a problem. Give them permission to not feel guilty that they can’t provide care themselves if it means losing direct vision of all the patients in the room.

She has seen the improvement in culture: ‘When a charge nurse comes to me about a fall that has caused harm,’ Sandy says, ‘they’re really sad about it. It’s not just in their heads, it goes right through their hearts to their heads.’

‘... and curiosity abounds’

The major finding (among the 290 or so recommendations) that arose from the 2013 Francis inquiry’s report into the disorder and failures in care at Stafford Hospital in Mid-Staffordshire in the UK in the mid-2000s was that the failings were not those of individual doctors or nurses but those of culture and climate. There was a climate of fear and a culture of silence within an overall context of management’s focus on financial goals and elevation to foundation trust status.⁴⁹ There is a risk that

we will repeat these mistakes in New Zealand. There is an equal risk, however, in trying to solve someone else's problem in our own country.

There is a balance to be struck, wrote Don Berwick, in the 2013 National Advisory Group report on Stafford Hospital, 'between the hard guardrails that keep things in proper order and the culture of continual learning that helps everyone to grow. A phrase that I believe I heard first in England captures that sense: "All Teach—All Learn." In such a culture, measurement is not a threat, it is a resource; ambition is not stressful, it is exciting; defects are seen as opportunities to learn; and curiosity abounds.'⁵⁰

Those of us who work in health care in New Zealand know that as in the NHS the vast majority of our colleagues are inspirational in their commitment to their patients and in their willingness to go the extra distance to achieve good outcomes for them. There are occasional examples of poor culture, and some get substantial coverage in the media, but it is a fundamental mistake to assume that these reflect the culture of the majority.

A culture of quality

Examples of excellence in culture tend to get less exposure. One such example was the collective response to the 2011 Christchurch earthquake. There are numerous stories of bravery and dedication that could be told. To choose just one: the orthopaedic community rallied to provide an emergency service in the days following the disaster. They were supported by anaesthetists from Christchurch Hospital itself, and by nurses, technicians and the other essential staff. They did so without being directed or instructed by any administrator, or employer, or any improvement, regulatory, or other agency. They asked for no payment or acknowledgement. They, like all concerned, just did the right thing.

One tampers with a culture of this quality at one's peril. At the same time, however, the system is not perfect. The challenge is to identify areas that are not going well despite good intentions, perhaps because of lack of knowledge or data, or because of inertia—things being done the way they have always been done without reflection on how they might be done better. Health care professionals around the world, for example, have been slow to adopt tools and techniques such as checklists and appropriate standardisation, proven in other industries to be effective in improving performance.

What has changed? What has been achieved? A clear example of improvement that could have been implemented years ago has been the near-eradication of infection related to central venous catheterisation (central line associated bacteraemia, or CLAB) in New Zealand, building on the example set in Johns Hopkins Hospital and then in the state of Michigan.⁵¹ CLAB is associated with high morbidity and a mortality rate of 10 to 50 percent. Estimates place the cost of each case somewhere in the range of \$20,000 to \$54,000.⁵²

The Target CLAB Zero campaign was a national collaborative—for the first time in this nation's history, every ICU in the country worked together to a single end, deploying an evidence-based preventative care bundle shown to prevent central line infections. The campaign was funded by the Commission and managed by Ko Awatea, and resulted in a decrease from a 2012 baseline of 3.2 CLAB cases per 1000 line days to fewer than 0.5 over the year to May 2014, including some months with no cases in the country at all.⁵³

The reduction seen at the end of the campaign has been sustained, and this improvement in practice seems to have become embedded. A problem previously thought to be inherent in the practice of central line insertion has turned out to be no more than a consequence of insufficient attention to detail, and entirely amenable to a simple, systematic, measurable, process-oriented intervention. The underlying general lesson is obvious.

Future directions for the Commission extend beyond the hospital into primary care and the disability sector.

The task facing the Commission is to work with those who are actually caring for patients and who know what they are doing, so that together the good results we have come to expect can be the better results that our patients deserve.

Sidebar: NZ health quality and safety in a global context—a timeline

(bold dates indicate NZ items)

1988—Gibbs report, *Unshackling the Hospitals*, calls for better monitoring, measuring and quality control in NZ healthcare.

1988—*The Report of the Cervical Cancer Inquiry* (the Cartwright report) calls for ‘an independent complaints resolution and educational body.’

1991—US Institute for Healthcare Improvement (IHI) founded by Don Berwick.

1994—Office for the NZ Health and Disability Commissioner (HDC) created, with powers ‘to enquire as to the contribution to an adverse event by anyone responsible for provision of healthcare, including administrators.’

1996—Dartmouth Atlas of Health Care variation in the US published.

1998—Canterbury Health Inquiry Report published.

1999—US Institute of Medicine (IOM) publishes landmark report in the patient safety movement: *To Err is Human* estimates adverse events to be the 7th leading cause of death in the US.

2000—Audience at Christchurch Hospital asks incoming HDC Ron Paterson: ‘Can your office ever be more than the ambulance at the bottom of the cliff? Do you have to wait till things go wrong?’ (<http://bit.ly/1uSsKMr>)

2000—NZ Health and Disability Act 2000 establishes the National Health Epidemiology and Quality Assurance Advisory Committee (EpiQual) and the National Mortality Review Committees.

2001—Gisborne Cervical Screening Inquiry report published. HDC report on Gisborne Hospital finds ‘a traumatised community within [Gisborne] hospital and a worried community beyond ... Suspicion and distrust [between management and staff] was endemic.’

2001—Bristol Royal Infirmary Inquiry report into deaths of paediatric cardiac surgical patients published.

2001—US IOM publishes its second landmark report, *Crossing the Quality Chasm*.

2002—Davis et al’s landmark study in the *NZ Medical Journal* estimates that 12.9% of New Zealand hospital admissions are associated with an adverse event—around 14,000 patients per year—and that a third are ‘highly preventable.’

2004—IHI launches the ‘100 000 Lives Campaign’ in the US with six interventions.

2006—In the US, Pronovost and colleagues publish ground-breaking ‘An intervention to decrease catheter-related bloodstream infections in the ICU’; AKA: ‘Michigan.’

2006—UK Department of Health publishes *Safety First* patient safety review in England.

2006—IHI launches the ‘5 Million Lives Campaign’ now with twelve interventions.

2007—NZ Quality Improvement Committee (QIC) established.

2007—UK Healthcare Commission identifies first mortality outliers at Stafford Hospital, part of the Mid-Staffordshire NHS Foundation Trust.

2008—UK NHS ‘Patient Safety First’ campaign launches.

2008—UK Healthcare Commission identifies seven different patient safety alerts at Stafford Hospital.

2008—NZ: Middlemore Hospital adapts Pronovost’s work for their ICU to reduce occurrences of central line associated bacteraemia (CLAB).

2009—NZ: Ministerial Review Group report (the Horn report) calls for replacing QIC with an independent national agency—what will become the Health Quality & Safety Commission (the Commission).

2009—UK Healthcare Commission publishes highly critical report on Stafford Hospital amid growing public outcry.

2009—WHO Surgical Safety Checklist successfully piloted in Auckland City Hospital and seven other hospitals worldwide.

2009—‘Matching Michigan’: the UK National Patient Safety Agency starts a two-year programme to reduce CLAB in English ICUs.

2010—UK NHS Atlas of Variation in Healthcare published.

2010—Publication of independent inquiry led by Robert Francis, QC into Stafford Hospital. Recommendations include a public inquiry, which is immediately commissioned by Andrew Lansley, incoming health secretary in the new Coalition government, and begins in July under Francis.

2010—National’s NZ Health and Disability Amendment Act 2010 establishes the Health Quality & Safety Commission (the Commission), an ‘independent, clinician-led agency to establish quality improvement across the whole health service.’ Establishment of the Commission gains broad support in parliament and the sector.

The Commission is tasked to advise the Minister of Health; to determine measures, to measure, and to report; and to promote and support the voluntary uptake of quality and safety improvement activities in New Zealand healthcare.

2011—Mary Seddon and colleagues publish on Middlemore’s CLAB intervention. Target CLAB Zero national collaborative campaign is launched by Ko Awatea, Counties Manukau DHB, the Commission and with participation of all DHBs.

2012—The Commission publishes first edition of New Zealand Atlas of Healthcare Variation. Baselines for CLAB in New Zealand suggest a national rate of 3.2 per 1000 line days.

2013—The Francis report on Stafford Hospital is published.

2013—The Commission’s *Open for better care* patient safety campaign launches.

2014—The New Zealand national CLAB rate is less than 0.5 for the past year. In some months there are no cases in the country.

Competing interests: The authors are employees or past or present board members of the Health Quality & Safety Commission. Shelley Frost holds a number of roles in the NZ health system: Chair, General Practice New Zealand (GPNZ); Executive Director (Nursing), GPNZ; Quality Clinical Advisor (Royal NZ College of GPs). David Galler is Clinical Director at Ko Awatea, which managed the national programme to eliminate central line infection and has provided a number of learning sessions and educational resources that the Commission has supported. Robert Henderson reports personal fees from the Commission’s Perioperative Harm Advisory Group, Australasian College of Surgeons, NZ Theatre Managers Conference, Hutt Valley District Health Board, Southern Cross Health Insurance, Victoria University, Wellington, Health Round Table, and non-financial support from the NZ Accident Compensation Commission. Geraint Martin reports roles as Adjunct Professor of Healthcare Management at AUT, Executive Board Member of the NZ Institute of Healthcare Management, CMDHB nominee as trustee on Middlemore Foundation Board, and Adjunct Professor of Healthcare Management at Victoria University. His wife is Director of Mackmurdie Solutions and Executive Director, Takanini Care Medical Services Limited Partnership. The company comprises two Accident and Medical Clinics (Takanini Care and Counties Care) and two general practices at the same location. Wife is also board member, Home Vision and contracted to be the National Facilitator for the Children’s Action Plan. Alan Merry is shareholder and board member of Safer Sleep LLC, with which he holds a patent.

Author information: Carl Shuker, Principal Advisor Publications, Health Quality & Safety Commission, Wellington; Gillian Bohm, Principal Advisor Quality Improvement, Health Quality & Safety Commission, Wellington; Dale Bramley, Chief Executive Officer, Waitemata District Health Board, Auckland; Shelley Frost, Chair and Executive Director (Nursing), General Practice New Zealand, Wellington & Quality Clinical Advisor, Royal NZ College of General Practitioners, Wellington; David Galler, Clinical Director, Ko Awatea, and Intensive Care Specialist, Department of Intensive Care Medicine, Middlemore Hospital; Richard Hamblin, Director of Health Quality Evaluation, Health Quality & Safety Commission, Wellington; Robert Henderson, Captain, Air New Zealand, Auckland; Peter Jansen, Senior Medical Adviser, Accident Compensation Corporation, Wellington; Geraint Martin, Chief Executive Officer, Counties Manukau District Health Board, Auckland; Karen Orsborn, General Manager, Health Quality & Safety Commission, Wellington; Anthea Penny, Principal, Penny & Associates Ltd, Akaroa; Janice Wilson, Chief Executive Officer, Health Quality & Safety Commission, Wellington; Alan Merry, Chair of the Board of the Health Quality & Safety Commission + Head of the School of Medicine at the University of Auckland

Correspondence: Alan F Merry, Faculty of Medical and Health Sciences, University of Auckland, Private Bag 92019, Auckland. New Zealand. a.merry@auckland.ac.nz

References

1. Thomson S, Osborn R, Jun M, eds. Commonwealth Fund. International Profiles of Healthcare Systems, 2013. November 2013.
http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf
2. OECD Health Statistics 2013.
3. Australian Institute of Health and Welfare. Health expenditure Australia 2011-12. September 2013.
4. Health Quality & Safety Commission. Making health and disability services safer: Serious adverse events reported to the Health Quality & Safety Commission 1 July 2013 to 30 June 2014. Oct 2014.
<http://www.hqsc.govt.nz/assets/Reportable-Events/Publications/Serious-Adverse-Events-Report-2013-14.pdf>
5. Davis P, Lay-Yee R, Briant R, et al. Adverse events in New Zealand public hospitals I: occurrence and impact. *N Z Med J.* 2002 Dec 13;115(1167):U271.
6. UK Department of Health. An Organization with a Memory. 2000.
7. Spain Ministry of Health and Consumer Affairs. National Study on Hospitalisation-Related Adverse Events. ENEAS 2005. February 2006.
http://www.msssi.gob.es/organizacion/sns/planCalidadSNS/docs/ENEAS_ENG.pdf
8. Council of the European Union. Council Recommendation of 9 June 2009 on patient safety, including the prevention and control of healthcare associated infections (2009/C 151/01). Official Journal of the European Union. July 2009. http://ec.europa.eu/health/patient_safety/docs/council_2009_en.pdf
9. US Institute of Medicine. To Err is Human: Building A Safer Health System. November 1999.
<http://www.iom.edu/Reports/1999/to-err-is-human-building-a-safer-health-system.aspx>.
10. Seddon ME, Jackson A, Cameron C, et al. The Adverse Drug Event Collaborative: a joint venture to measure medication-related patient harm. *N Z Med J.* 2012 Jan 25;126(1368):9-20.
11. Hamblin R. Working paper. Wellington: Health Quality & Safety Commission. 2013.
12. Osteoporosis New Zealand. Bone Care 2020. Wellington: Osteoporosis NZ. 2012.
13. New Zealand Health Information Service. Fractured neck of femur services in New Zealand hospitals 1999–2000. Wellington: Ministry of Health. 2002.
14. Crude rate per 100,000 hospital discharges. OECD Health Care Quality Indicators (HCQI) Data Collection 2012/13. PSIO5 Retained surgical item or unretrieved device fragment.

15. National Minimum Dataset 2012.
16. Ministerial Review Group. Meeting the Challenge: Enhancing Sustainability and the Patient and Consumer Experience within the Current Legislative Framework for Health and Disability Services in New Zealand. Report of the Ministerial Review Group. 'The Horn report.' 2009.
<http://www.beehive.govt.nz/sites/all/files/MRG%20Report%20Meeting%20the%20Challenge.pdf>
17. Health Quality & Safety Commission. The New Zealand Triple Aim. <http://www.hqsc.govt.nz/news-and-events/news/126/>.
18. Institute for Healthcare Improvement (IHI). The IHI Triple Aim.
<http://www.ihl.org/Engage/Initiatives/TripleAim/pages/default.aspx>
19. Sackett DL, Rosenberg WM, Gray JA, et al. Evidence based medicine: what it is and what it isn't. *BMJ*. 1996 Jan 13;312(7023):71-2.
20. Merry AF, Davies JM, Maltby JR. Qualitative research in health care. *Br J Anaesth*. 2000 May;84(5):552-5.
21. Smith R, Rennie D. Evidence based medicine--an oral history. *BMJ*. 2014 Jan 21;348:g371.
22. Barry MJ, Edgman-Levitan S. Shared decision making--pinnacle of patient-centered care. *N Engl J Med*. 2012 Mar 1;366(9):780-1.
23. The Dartmouth Atlas Project. <http://www.dartmouthatlas.org/>
24. Ellis C, Devlin G, Matsis P, et al. Acute Coronary Syndrome patients in New Zealand receive less invasive management when admitted to hospitals without invasive facilities. *N Z Med J*. 2004;117(1197).
25. Harrison A. Provision of rheumatology services in New Zealand. *N Z Med J*. 2004 Apr 23;117(1192):U846.
26. Love T, Crampton P, Salmond C, Dowell A. Patterns of medical practice variation: variability in referral for back pain by New Zealand general practitioners. *N Z Med J*. 2005 Apr 1;118(1212):U1381.
27. Raymont A. Hospital discharges in New Zealand 1991-2005: changes over time and variation between districts. *N Z Med J*. 2008 Aug 8;121(1279):66-74.
28. Wells S, Jackson R. Unwarranted variation in healthcare organisation and practice for long-term conditions. *N Z Med J*. 2011 Oct 14;124(1344):6-9.
29. Connolly MJ, Kenealy T, Barber PA, et al. National variability in provision of health services for major long-term conditions in New Zealand (a report from the ABCC NZ study). *N Z Med J*. 2011 Oct 14;124(1344):16-35.
30. Dickie EE, Simcock JW. Reduction mammoplasty and resource allocation--are patients being treated fairly? An examination of the current New Zealand situation, and looking towards the future. *N Z Med J*. 2013 May 10;126(1374):46-55.
31. Jackson G, Dalbeth N, Te Karu L, et al. Variation in gout care in Aotearoa New Zealand: a national analysis of quality markers. *N Z Med J*. 2014 Oct 17;127(1404):37-47.
32. Health Quality & Safety Commission. NZ Atlas of Healthcare Variation. Surgical procedures.
<http://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/surgical-procedures/>
33. Health Quality & Safety Commission. NZ Atlas of Healthcare Variation. Diabetes.
<http://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/diabetes/>.
34. Jackson G, Gerard C, Minko N, Parsotam N. Variation in benzodiazepine and antipsychotic use in people aged 65 years and over in New Zealand. *N Z Med J*. 2014 Jun 20;127(1396):67-78.
35. de Raad JP. Towards a value proposition... scoping the cost of falls. NZIER scoping report to Health Quality & Safety Commission NZ. NZIER: Wellington. 2012.

36. Osteoporosis New Zealand. Bone Care 2020. Wellington: Osteoporosis New Zealand. 2012.
37. Health Quality & Safety Commission. Making health and disability services safer: Serious adverse events reported to the Health Quality & Safety Commission 1 July to 30 June 2013. Wellington: Health Quality & Safety Commission. 2013. <http://www.hqsc.govt.nz/assets/Reportable-Events/Publications/Making-health-and-disability-services-safer-Serious-Adverse-Events-Nov-2013.pdf>
38. Health Quality & Safety Commission. Ask Assess Act. 2014. <http://www.hqsc.govt.nz/our-programmes/reducing-harm-from-falls/projects/ask-assess-act/>
39. National Institute for Health and Care Excellence (NICE). NICE Clinical guideline 161 Falls: assessment and prevention of falls in older people. 2013. <http://publications.nice.org.uk/falls-assessment-and-prevention-of-falls-in-older-people-cg161>
40. Panel on Prevention of Falls in Older Persons, American Geriatrics Society and British Geriatrics Society. Summary of the updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons. *J Am Geriatr Soc.* 2011;59(1):148-157.
41. Nicholls TM, Morris AJ. Nosocomial infection in Auckland Healthcare hospitals. *N Z Med J.* 1997 Aug 22;110(1050):314-6.
42. Magill SS, Hellinger W, Cohen J, et al. Prevalence of healthcare-associated infections in acute care hospitals in Jacksonville, Florida. *Infect Control Hosp Epidemiol.* 2012 Mar;33(3):283-91.
43. Hefford M, Black M, Wyatt S; Sapere Research Group. Cost benefit analysis of the proposed national surgical site infection surveillance and response programme. 12 May 2011.
44. Health Protection Scotland. National Hand Hygiene NHS Campaign Compliance with Hand Hygiene - Audit Report: 23rd Bi-monthly Report (January 2013). <http://www.documents.hps.scot.nhs.uk/hai/infection-control/national-hand-hygiene-campaign/audit-report-2013-01-30.pdf>
45. Haynes AB, Weiser TG, Berry WR, et al. A surgical safety checklist to reduce morbidity and mortality in a global population. *N Engl J Med* 2009 Jan 29;360(5):491-9.
46. Treadwell JR, Lucas S, Tsou AY. Surgical checklists: a systematic review of impacts and implementation. *BMJ Qual Saf.* 2014 Apr;23(4):299-318.
47. UK Department of Health. High Quality Care For All: NHS Next Stage Review Final Report. June 2008.
48. Donabedian A. Evaluating the quality of medical care. 1966. *Milbank Q.* 2005;83(4):691-729.
49. The Mid Staffordshire NHS Foundation Trust Public Inquiry. February 2013. <http://www.midstaffpublicinquiry.com/>.
50. National Advisory Group on the Safety of Patients in England. A promise to learn – a commitment to act: improving the safety of patients in England. August 2013.
51. Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infections in the ICU. *N Engl J Med.* 2006 Dec 28;355(26):2725-32.
52. Seddon ME, Hocking CJ, Mead P, Simpson C. Aiming for zero: decreasing central line associated bacteraemia in the intensive care unit. *N Z Med J.* 2011 Jul 29;124(1339):9-21.
53. Health Quality & Safety Commission routine data collection. June 2014.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.