



National Patient Safety Campaign

Charter

September 2013

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Published in September 2013 by the Health Quality & Safety Commission,
PO Box 25496, Wellington 6146.

ISBN: 978-0-478-38559-5 (print)
ISBN: 978-0-478-38560-1 (online)

Citation: Health Quality & Safety Commission. 2013. *National Patient Safety Campaign Charter*.
Wellington: Health Quality & Safety Commission.

This document is available on the Open for better care website at:
www.hqsc.govt.nz

Introduction

The Health Quality & Safety Commission (the Commission) is undertaking a national patient safety campaign, *Open for better care*, to reduce harm and improve quality and safety in health and disability care settings. The campaign will focus on four priority areas where evidence shows change can reduce patient harm. Those areas are:

- falls
- healthcare associated infections (HAIs), specifically surgical site infections (SSIs)
- perioperative harm
- medication safety.

The campaign will run to the end of June 2015, and focus areas are being rolled out sequentially, starting with reducing harm from falls.

The campaign operates on two levels: communicating with and educating the whole community to improve patient safety; and focusing on specific topics, with measurable goals.

The Commission invites district health boards (DHBs) to engage with the campaign as part of their obligations to provide safe care to their local community, deliver quality accounts,¹ report serious and sentinel events, comply with health and safety legislation and have a 'just culture'.²

Why we need a campaign

While for the most part excellent patient care is being delivered in New Zealand, patients are still being harmed, sometimes with serious and long-term consequences. Furthermore, some patients are not receiving the care they need, while others are receiving treatment that is of no value to them. The campaign aims to address this and, in doing so, bring about a culture change that puts patient safety first, involves patients as partners in their care and ensures that improvements are sustained.

By promoting and increasing awareness of the activity of the four work programmes (falls, HAIs, perioperative harm and medication safety), including the use of simple interventions that, when reliably implemented, can improve patient safety and the quality of care. The campaign aims to achieve sustainable improvements in these four areas as well as increased capability to deliver further improvements.

The campaign will also contribute towards the Commission's delivery of the New Zealand Triple Aim for quality improvement, which has been accepted by the Ministry of Health (including the National Health Board, the National Health IT Board, the National Health Committee and Health Workforce New Zealand), DHBs, Health Benefits Ltd and PHARMAC.

All aspects of the campaign strive to achieve the Triple Aim. By improving quality and safety we deliver improved health and equity for all populations, and the best value for public health system resource. It's about doing the right thing, and doing it right.

¹ Quality accounts require health care providers to give an account for the quality of their services in a similar way to financial accounts showing how an organisation used its money. Quality accounts are being adopted in New Zealand, and while responsibility for their delivery sits with health care providers, the Commission is supporting this through the provision of guidance about their content and style.

² 'Just culture' is a well-known term in health care. It is generally understood to mean a culture in which frontline staff and others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated. The term recognises the need to learn from accidents and incidents through safety investigation so as to take appropriate action to prevent the repetition of such events.



Campaign goal

The campaign has an overarching goal:

To inform and mobilise the New Zealand population to ensure safety and quality improvement in health care by preventing harm, avoiding waste and getting better value from resources.

The campaign also promotes a number of generic principles, ie, the need to:

- increase patient involvement in care and quality improvement approaches
- increase capability within the health and disability workforce (and consumers) to ensure quality improvement becomes business as usual
- support and encourage respect and teamwork
- inform and mobilise the population to assist in preventing harm
- promote sharing of good practice
- support and encourage good communication.

This is broken down into quantifiable aims for each of the priority areas (see page 10 in this document).

The campaign will work to achieve its aim and generic principles via promoting and increasing awareness of the work of the four work programmes: falls, HAIs, perioperative harm and medication safety. For each topic the campaign will promote and support the implementation of key, evidence-based interventions that are known to make a difference (as chosen by the programme area's experts and advisory groups).

Open for better care

The campaign's brand is *Open for better care*.

The brand was chosen following interviews with a range of people who work in and use health services, including patients, clinicians, board members and management. Consistent feedback was that the brand must represent transparency, participation, teamwork, and shared learning, as these are key to improving patient safety. It has been chosen to succinctly represent the campaign's objective, aim and generic principles.



Key messages

The *Open* brand key messages capture the importance of:

- change, innovation and sustainable innovation
- doing the right thing, and doing it right
- first, doing no harm
- supporting an honest, transparent and respectful culture
- listening carefully and communicating clearly
- acknowledging mistakes and learning from them
- working as a team and across teams
- working across hospitals and communities
- sharing learning and learning from the success of others.

Why the four priority areas have been chosen

The four priority areas of falls, HAIs (specifically SSIs), perioperative harm and medication were chosen for several reasons. Evidence shows that changes, when reliably applied (e.g., the correct use of prophylactic antibiotics in surgery is known to reduce the incidence of SSIs), can reduce patient harm in these areas, but it is also the case that important improvement work is already underway and needs to continue and be promoted.

The campaign spans hospital and community settings. Harm prevented in the community has positive spin-offs for secondary care. For example, prescribing vitamin D for older people who meet certain criteria improves muscle and bone strength and reduces their risk of falling, resulting in fewer treatments and hospital admissions for fall-related injuries.

Falls

A fall can be life-changing for an older person and his or her family/whānau. In hospitals, where patients have the right to a safe environment and safe care, falls resulting in harm are seen as a critical area for improvement.³

How common are falls?

- New accepted ACC claims for falls during 2010–11 were just over 565,000 at a total cost of approx. \$319 million. Of these, 2600 occurred in a place of medical treatment (including public hospitals) at a cost of approx. \$3 million.⁴
- During the 2010–11 year there were a total of 47,000 fall-related hospital discharges, with a cost to public hospitals of approx. \$205 million. Over half were aged over 65.⁵
- Of the 730 serious and sentinel events reported by DHBs in the two years 2010–12,⁶ 365 were fall-related injuries, which make them the most frequently reported serious and sentinel event in New Zealand hospitals.

3 Healey F, Darowski A. 2012. Older patients and falls in hospital. *Clinical Risk* 18(5): 170–6.

4 De Raad JP. 2012. *Towards a value proposition...scoping the cost of falls*. Wellington: New Zealand Institute of Economic Research.

5 De Raad, *op cit*.

6 Health Quality & Safety Commission. 2012. *Making our Hospitals Safer: Serious & Sentinel Events reported by District Health Boards 2011/2012*. Wellington: Health Quality & Safety Commission.

What are the consequences?

- The most serious injuries resulting from falls are fractures and head injuries.
- In the first year after hip fracture, half of those who walked unaided prior to their fracture will no longer be able to walk independently and will require either long-term care or help with activities of daily living. A quarter suffers an early death.⁷
- Even without physical injury, there are important psychological and social impacts following a fall for an older person. After a fall, an elderly person may lose confidence, become anxious and afraid of falling, and become less independent and more socially isolated.⁸
- Of the 365 patient falls over the two-year period 2010–12:
 - 170 were associated with a hip fracture
 - it is estimated that 22 more people died than we would otherwise expect.

What are the costs?

- A hip fracture causing a three-week stay in hospital is estimated to cost \$47,000 and a hip fracture with complications and discharge to an aged residential care facility \$135,000.⁹
- Fracturing a hip while in hospital can extend a person's length of stay by over a month. The estimated cost for the additional time is conservatively \$26,000.¹⁰
- The direct costs of patient falls in hospitals for 2010–11 were \$3–5 million; however figures from international studies and analysis of New Zealand data suggest the total resources used by falls could well be 2–2.5 times higher than the direct costs – which would mean the true cost could be about \$6–12 million per annum.¹¹

Healthcare associated infections – surgical site infections

HAIs are infections acquired during treatment. They can be life-threatening, especially for patients with serious pre-existing conditions. They are among the most frequent adverse events of care delivery. By reducing SSIs, the potential individual harm and costs to patients, such as ongoing disability and pain, will be substantially reduced.

How common are HAIs?

- HAIs can occur in any health care setting and are among the most frequent adverse events of health care delivery.¹²
- SSIs are the second most common form of HAI, occurring in 2–5 percent of all patients undergoing invasive surgical procedures.¹³

What are the consequences?

While it is uncommon for a patient to die from HAIs, the consequences of HAIs can be significant, including longer hospital stays, further admissions to hospital and the potential for increased resistance to antibiotics. There are also potential costs to a patient's family/whānau, including the personal time required for repeated hospital visits, the need to support the patient once they have gone home and any consequent loss of income.

7 Osteoporosis New Zealand. 2012. *Bone Care 2020*. Wellington: Osteoporosis New Zealand.

8 Delbaere K, Close JC, Brodaty H et al. 2010. Determinants of disparities between perceived and physiological risk of falling among elderly people: cohort study. *British Medical Journal* 341. <http://www.bmj.com/content/341/bmj.c4165>

9 De Raad, *op cit*.

10 De Raad, *op cit*.

11 Hamblin R. 2013. Working paper. Wellington: Health Quality & Safety Commission.

12 Health Quality & Safety Commission *op cit*.

13 Anderson DJ et al. 2008. SHEA/IDSA Practice Recommendation: Strategies to Prevent Surgical Site Infections in Acute Care Hospitals. *Inf Cont Hosp Epid* 29: 551–61.

What are the costs?

The impact to our public health system includes the direct costs of care as well as the indirect impact of the opportunity cost to care for other patients.

- In New Zealand, healthcare associated bloodstream infections have been estimated to extend hospital stays by an average of 10 days, at an additional cost of \$20,000 per patient.¹⁴
- Patients with SSIs following hip replacement procedures have hospital stays that are at least 2–3 times longer than those without an infection.^{15 16 17}
- SSIs following open heart surgery increase hospital stays by 32 days, at an average cost of \$45,000 per patient.¹⁸

Perioperative harm

Performing safe surgery relies on the ability of surgical team members to combine professional knowledge and technical expertise with non-technical skills (e.g., communication, teamwork, situational awareness, leadership and decision-making). Communication and teamwork failure is at the core of nearly every medical error and adverse event, including surgical events.^{19 20 21 22}

How common is perioperative harm?

- For the six-year period from 2005–06 to 2010–11, ACC accepted a total of 205 claims for retained equipment and wrong-site surgery.²³
- Retained instruments or swabs made up 2 percent of the serious and sentinel events reported to the Health Quality & Safety Commission in 2011–12.²⁴
- On the basis of 2009 administrative data and the rates per 100,000 hospital discharges:
 - the New Zealand average for foreign bodies left in during a procedure was 8.7 compared with the OECD rate of 5.7²⁵
 - for accidental puncture or laceration, the New Zealand average was 405 compared with the OECD average of 220.²⁶
- In 2012, 759 people had a deep vein thrombosis (DVT) or pulmonary embolism (PE) while still in hospital following a procedure, or were readmitted with a DVT/PE within 28 days of a procedure. Five hundred and thirty-one people had sepsis following a procedure.

14 Burns A, Bowers L, Pak N et al. 2010. The excess cost associated with healthcare-associated bloodstream infections at Auckland City hospital. *NZMJ* 123; 1324: 17–24.

15 Coello R, Charlett A, Wilson J et al. 2005. Adverse impact of surgical site infections in English hospitals. *J Hosp Inf* 60: 93–103.

16 Jodra VM, Soler LS, Perez CD et al. 2006. Excess length of stay attributable to surgical site infection following hip replacement: a nested case control study. *Inf Cont Hosp Epid* 27(12): 1299–1303.

17 Ridgeway S et al. Health Protection Agency England. 2005. Infection of the surgical site after arthroplasty of the hip. *J Bone Joint Surg* 87-B; 844–50.

18 Upton A, Smith P, Roberts SA. 2005. Excess cost associated with *Staphylococcus aureus* poststernotomy mediastinitis. *NZMJ* 118: 1210.

19 Catchpole K, Mishra A, Handa A et al. 2006 Teamwork and error in the operating room: an analysis of skills and roles. *Annals of Surgery* 247(4): 699–706.

20 Haynes AB, Weiser TG, Berry WR et al. 2009. A surgical safety checklist to reduce morbidity and mortality in global population. *The New England Journal of Medicine* 360: 491–9.

21 De Vries EN, Prins HA, Crolla RM et al. 2010. Effect of a comprehensive surgical safety system on patient outcome. *The New England Journal of Medicine* 363: 1928–37.

22 Joint Commission on the Accreditation of Healthcare Organisations. 2004–2012. Sentinel event data: Root causes by event type. URL: http://jointcommission.org/assets/1/18/Root_Causes_Event_type_04_4q2012.pdf.

23 Hefford M, Blick G. 2012. Cost benefit analysis of the surgical safety checklist. Wellington: Sapere Research Group

24 Health Quality & Safety Commission *op cit*.

25 OECD. 2011. *Health at a Glance: OECD Indicators*. Paris: OECD Publishing. URL: http://dx.doi.org/10.1787/health_glance-2011-en

26 OECD *op cit*.

What are the consequences?

Perioperative harm impacts on patients and the New Zealand health sector in many ways. These consequences include longer hospital stays, additional admissions to hospital, and repeat procedures. There are also potential costs to a patient's family/whānau, including the personal time required for repeated hospital visits, the need to support the patient once they have gone home and any consequent loss of income.

What are the costs?

A recent cost-benefit analysis looking at current use of the World Health Organization (WHO) surgical safety checklist in New Zealand estimated that:²⁷

- potentially avoidable complications arising from surgery is likely to be between 10 percent and 15 percent in New Zealand
- on average, a discharge with a complication that could have been prevented by appropriate use of the checklist costs 17.3 percent more than an equivalent discharge without a complication
- on average, surgery to remove a foreign object left in the body may add 28% in costs to an episode of surgical treatment. The associated impact on the length of stay in hospital is an increase of up to one third (e.g. from 3 to 4 bed days)
- if the checklist was used more systematically there are potential savings to the New Zealand public health system of about \$5.7 million per year.

The analysis also noted that key studies suggest a reduction in mortality of up to 50 percent is possible, but even securing a reduction of 1 percent would imply 40–50 fewer deaths per year in New Zealand.

In 2012 there were over 750 events for a DVT or PE and over 500 for sepsis, where the patient either had the complication recorded during a stay in hospital following a procedure, or was readmitted within 28 days of surgery. We estimate that these patients stayed in hospital for an additional 3500 days, at a cost of nearly \$3 million.

Medication safety

An estimated three-quarters of New Zealanders had a prescription for one or more medicines in the year ended 30 June 2012, and 35 percent were prescribed five or more medicines (although not necessarily at the same time).²⁸ The medicines management process is complex and prone to error at multiple points, which can result in adverse drug events (ADEs). Around 60 percent of ADEs are considered to be preventable.²⁹

The medicines most frequently involved in serious ADEs are high-risk medicines. These include warfarin, heparin, opioids, insulin, concentrated potassium injection and oral methotrexate.

Factors that increase high-risk medicines' potential for harm include:

- having a narrow therapeutic index
- complex or unusual dosing
- high monitoring requirements
- significant interactions with other medicines
- the availability of a medicine in multiple strengths and forms.

²⁷ Hefford *op cit*.

²⁸ Moodie P. Unpublished PHARMAC data for financial year ending 30 June 2012. Personal communication on 29 April 2013.

²⁹ Bates DW, Cullen DJ, Laird N et al. 1995. Incidence of adverse drug events and potential adverse drug events: implications for prevention. *JAMA* 274: 29–34.

How common are medication errors?

- Medication errors made up 5 percent of the serious and sentinel events reported by DHBs in 2011–12.³⁰
- While the total incidence of ADEs caused by high-risk medicines in New Zealand is unknown, recently published trigger tool data found that opioids (32.9 percent) and anticoagulants (10 percent) were most commonly implicated for causing an ADE. Of the 19 ADEs identified in the study as contributing to severe harm or death, 50 percent were related to opioids and anticoagulant use. These results align with international literature.³¹
- The frequency of ADEs increases with the number of medicines taken, from 13 percent with two medicines to 58 percent with five medicines, and 82 percent with seven or more.³²

What are the consequences?

While most medicines have a large margin of safety, a small number of high-risk medicines can potentially cause significant harm even when used as intended.

What are the costs?

Exact costs attributed to ADEs are challenging to quantify but estimates in New Zealand of the annual preventable ADE costs 'range from \$148,287 to \$158 million'.^{33 34 35}

Aims for harm reduction in each priority area

The campaign has an overarching goal:

To inform and mobilise the New Zealand population to ensure safety and quality improvement in health care by preventing harm, avoiding waste and getting better value from resources.

Quantifiable aims for each of the priority areas are:

- Falls – a reduction, at a national level, of inpatient fall-related fractures of 20 percent by 30 June 2015.
- HAs (SSIs) – 25 percent reduction in SSI rates through the implementation of best practice improvement interventions.
- Perioperative harm – (provisionally) all three parts of the WHO surgical safety checklist are used in 90 percent of operations.³⁶
- Medication safety – reduce harm associated with the use of high-risk medicines. This is currently being developed, but is likely to be focused on one or two high-risk medicines.

30 Health Quality & Safety Commission *op cit*.

31 Seddon ME, Jackson A, Cameron C et al. 2013. The Adverse Drug Event Collaborative: a joint venture to measure medication-related patient harm. *NZMJ* 126: 9–20.

32 Patterson S et al. 2012. *Interventions to improve the appropriate use of polypharmacy for older people*. Cochrane Database of Systematic Reviews, Issue 5.

33 Briant R, Ali W, Lay-Yee R et al. 2004. Representative case series from public hospital admissions 199: drug and related therapeutic adverse events. *NZMJ* 117(1188).

34 Brown P, McArthur C, Newby L et al. 2002. Cost of medical injury in New Zealand: a retrospective cohort study. *J Health Serv Res Policy* 7: 29–34.

35 Kunac DL, Kennedy J, Austin N et al. 2009. Incidence, preventability and impact of adverse drug events (ADEs) and potential ADEs in hospitalized children in New Zealand. *Paediatric Drugs* 11(2): 153–60.

36 The aim for perioperative harm will be determined by the perioperative harm expert advisory group and Commission board in advance of the perioperative harm campaign planning phase – ie, in late 2013.

Campaign approach

National design, regional implementation

The campaign is being coordinated nationally by the Commission and implemented regionally by the health sector. DHBs and other providers will adopt the national approach and associated resources in a way that best suits their local environment and situation. A key purpose of the campaign is to promote interventions/actions that are evidence based and proven to reduce harm and improve the quality and safety of patient care. The campaign will also reduce duplication of effort and encourage frameworks that promote a level of standardisation in regional approaches.

Each of the four regions (Northern, Midland, Central and South Island), has established a campaign steering group for their region and is working with the Commission on campaign implementation. This approach has been chosen to ensure appropriate design, sustainable change, increased capability and ongoing ownership by the sector.

Campaign methods

The methods used through the campaign are based on the best evidence of what works, adapted to our current New Zealand national, regional and local health care context. The most appropriate combination of methods will be used for individual campaign topics – ie, each of the topic areas will articulate the methods that will work best for their programme of work.

Some examples are:

- Using international improvement experts to advise on the campaign.
- Using and promoting proven quality improvement knowledge and methods to embed ideal practice into local and regional improvement activities.
- Using credible and respected clinicians and consumers as leaders and champions for each focus area.
- Using expert advisory groups with a mix of clinical disciplines, consumers, improvement expertise, academics and researchers.
- Identifying evidence-based interventions to improve care by:
 - providing best practice resources and guides
 - providing standardised tools.
- Developing networks and taking a collaborative approach by
 - supporting the development and roll-out of local projects and project teams
 - linking improvement leaders and using appropriate quality improvement and/or clinical experts to identify issues and implement solutions
 - establishing regional and national networks that build on local initiatives, for sharing ideas and learning from each other.
- Facilitating consumer participation by:
 - identifying consumer champions in each region
 - involving patients/consumers appropriately in the campaign at all levels
 - involving patients, family/whānau in ways to prevent harm through education and shared decision-making
 - developing a consumer-focused library of stories.

- Ensuring the campaign is making a difference, as measured by:
 - having a clear aim for improvement, which is consistently measured
 - the quality and safety markers (QSMs)
 - national evaluation
 - local measurement.
- Raising awareness of the need for a strong focus on patient safety by:
 - inspiring people and change through stories and social marketing
 - sharing success stories – ensuring knowledge transfer
 - working with regions to hold events that focus on promoting a specific behaviour change
 - using paid and unpaid media, and stakeholder and non-government organisation networks.

Sustainability

Reductions in patient harm must be sustainable – it is not enough to bring about short-term change. The campaign will ensure sustainability by:

- having a strong focus on capability-building within the health care sector; for example, there is directed funding in 2013 for the training and education of frontline managers and team leaders in the areas of improvement science and patient safety
- having a strong focus on involving patients and building their capability to improve the quality and safety of care
- supporting a collaborative model that requires regions to build and improve networks, develop regional leadership and capability, and share knowledge and learnings on an ongoing basis
- supporting an 'open' culture that encourages transparency, teamwork and good communication.

How success will be evaluated

For each of the four priority areas, the Commission is vitally concerned with the answers to four evaluation questions:

1. Did the desired change in safety practice occur?
2. How successful was the process of effecting change throughout the campaign?
3. Did a reduction in harm and cost occur?
4. Has the campaign resulted in sustainable improvement?

Measures will be used to:

- measure the extent to which improvement projects are being implemented across the country
- report on improvement
- highlight where further improvements need to be made
- improve attitudes and knowledge of the priority areas
- engage with the sector and encourage uptake of resources.

The Commission has contracted an independent assessment of the effectiveness of the campaign. This will draw on a broader range of evaluative methods including qualitative and economic evaluations.

Quality and safety markers

As part of undertaking and evaluating the campaign the Commission has worked/continues to work with the sector to develop QSMs for each topic area. Achieving these desired levels of performance is one way campaign success will be evaluated.

The QSMs are an integral part of the measurement of the success of the campaign. Each of the four workstreams has at least one process marker and a number of outcome measures that have been tested and refined following sector feedback. *Note: The medication safety markers are under development.*

- **Process measures** focus on the processes of care that are expected to lead to better outcomes and are under the control of the organisation providing care.
- **Outcome measures** focus on harm and cost that have been avoided. They will provide context at a local level and, when aggregated at a national level, provide information about our progress against the core campaign goals of reduced harm and cost. The outcome measures will also be used to look at change over time within individual DHBs.
- **Targets** for achievement are set, and progress towards and against this level reported.

Falls QSMs

- Percentage of patients aged 75 years and over (Māori and Pacific peoples aged 55 and over) that are given a falls risk assessment.
- Percentage of patients assessed as being at risk that have an individual care plan that addresses their falls risk.
- In-hospital hip fracture (calculated as absolute numbers).
- Additional occupied bed days.
- Additional cost of hip fracture (based on estimate of \$26,000 per fracture).

HAI (SSI) QSMs

The approach below was agreed with the SSI clinical lead and was approved by the SSI programme steering group and Commission board for in late August 2013.

- Antimicrobial prophylaxis in surgery:
 - antibiotics are given at the correct time
 - 0–60 minutes before knife to skin.
- Correct dose is given:
 - Cephazolin $\geq 2\text{g}$.
- Appropriate skin antisepsis (can be chlorhexidine $\geq 2\%$ or povidone with alcohol).
- SSI per 100 procedures:
 - SSI defined as superficial incisional, deep incisional or organ/space infection.

HAI (non-SSI) QSMs

- Compliance with good hand hygiene practice.
- Compliance with central venous line insertion bundles.
- Compliance with central venous line maintenance bundles.
- Rate of healthcare associated *Staphylococcus aureus* bacteraemia per 1000 inpatient days.
- Rate of central line associated bacteraemia per 1000 line days.

Perioperative harm QSMs

- Percentage of operations where all three parts of the WHO surgical safety checklist were used.
- Percentage of operations where venous thromboembolism was considered as part of the surgical safety checklist.
- Postoperative sepsis and DVT/PE rates calculated as the percentage of surgical admissions where post-operative sepsis and postoperative DVT/PE was recorded within the initial surgical episode or where a readmission associated with postoperative sepsis and DVT/PE occurred within 28 days of discharge from an initial surgical episode.
- Additional occupied bed days associated with postoperative sepsis and DVT/PE episodes.
- Costs associated with patients who suffered surgical harm – additional cost based on cost estimate of \$770 per occupied bed day.
- Excess number of in-hospital deaths associated with sepsis and DVT/PE, calculated as absolute numbers.

Medication safety QSMs

The approach below has yet to be confirmed by the medication safety programme steering group or the Commission board and is included here as an example only.

- Proportion of international normalised ratio (INR) tests that are above X.
- Admissions for haemorrhage or thrombolysis.

Campaign timing

	Sept–Dec 2012	Jan–June 2013	July–Dec 2013	Jan–June 2014	July–Dec 2014	Jan–June 2015
Planning & establishment						
APAC conference						
Public launch (17 May 2013)						
Baseline measures						
Falls (May–Nov 2013)						
SSIs (Oct–Mar 2014)						
Perioperative harm (Apr–Sep 2014)						
Hand hygiene public campaign (Apr–Sep 2014)						
High-risk medicine (Jul–Dec 2014)						
Progress reporting (quarterly from Jan 2014)						
Ongoing implementation						

