Consultation instructions: *National Safety and Quality Health Service Standards: User guide for the review of clinical variation in healthcare*

**Target audience and purpose**

This resource is for health service organisations implementing the *National Safety and Quality Health Service Standards: Clinical Governance Standard – Action 1.28 Variation in clinical practice and health outcomes*. The user guide includes actions for governing bodies, managers and clinical leaders.

**Consultation dates**

Consultation on this resource will be open until **31 October 2019**.

**Consultation questions**

You are invited to provide feedback on the whole resource or specific components of the resource.

Included below are some questions that may help guide your feedback. You can answer all, some or none of the questions in your feedback. There is no word limit for your responses.

1. **Useability**: Is the information provided in the guide useful in implementing the NSQHS Standard: Action 1.28? Is there something else you consider should be included in the guide to further assist health service organisations implement Action 1.28?

2. **Clarity and language**: Could the language in this resource be improved, or is it clear and appropriate for use in your health service organisation? Does any of the content in this resource require further clarification or rewording? Please provide suggestions for these changes.

3. **Gaps or duplication**: Are there any gaps or duplication in the content?

4. **Examples**: Are there examples of current practice that could be included as a practice resource?

5. **Other feedback**: Please provide any other feedback you have on this resource.

**Submitting your feedback**

Our preferred method for receiving your feedback is by:

- **Email**: atlas@safetyandquality.gov.au

You may also mail your responses to:

- Clinical Variation in Healthcare Consultation
- GPO Box 5480
- Sydney NSW 2001

**Our contact details**

If you have any questions in relation to this consultation, please contact the Commission at atlas@safetyandquality.gov.au
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Introduction

The National Safety and Quality Health Service (NSQHS) Standards were developed by the Australian Commission on Safety and Quality in Health Care (the Commission) in collaboration with the Australian Government, states and territories, the private sector, clinical experts, patients and carers. The primary aims of the NSQHS Standards are to protect the public from harm and to improve the quality of health service provision. They provide a quality assurance mechanism that tests whether relevant systems are in place to ensure that expected standards of safety and quality are met.

This guide explains how health service organisations can implement Action 1.28 of the Clinical Governance Standard (Box 1). The intent of Action 1.28 is that health service organisations use data on clinical care processes and outcomes to identify unwarranted variation and to regularly review and improve the appropriateness of clinical care. See Box 2 for definitions.

In order to implement Action 1.28, a health service organisation needs to review performance in comparison to:

- Other health service organisations, and/or
- Evidence-based guidelines or clinical care standards.

These two comparisons can also be framed as questions:

- Is the clinical care as good as it could be? (How does care delivered in this organisation compare with care in similar organisations?)
- Is the clinical care as good as it should be? (How does care delivered in this organisation compare with best practice care?)

The health service organisation can choose to examine clinical variation at the level of clinical teams within the organisation and/or at an organisational level. Examining both levels is recommended. Clinical leaders and clinical teams should be involved throughout the entire process of examining variation in clinical care.

Box 1

NSQHS Standards: Clinical Governance Standard

Criteria: Clinical Performance and Effectiveness

Item: Variation in clinical practice and health outcomes

Action 1.28: The health service organisation has systems to:

a. Monitor variation in practice against expected health outcomes
b. Provide feedback to clinicians on variation in practice and health outcomes
c. Review performance against external measures
d. Support clinicians to take part in clinical review of their practice
e. Use information on unwarranted clinical variation to inform improvements in safety and quality systems
f. Record the risks identified from unwarranted clinical variation in the risk management system.
Box 2. Definitions

What is clinical variation?
Clinical variation is a difference in healthcare processes or outcomes, compared to peers or to a standard such as an evidence based guideline recommendation. For example:

- A higher rate of treating heavy menstrual bleeding with hysterectomy, and a lower rate of less invasive treatments, by one clinical team compared with others in the same hospital.
- A lower rate of patients with stroke who have a comprehensive discharge plan completed in one hospital, compared with the national average and the top 15% of best-performing hospitals.
- Not prescribing secondary prevention medicines for all eligible patients who have had an acute coronary syndrome, as in the Acute Coronary Syndromes Clinical Care Standard.¹

What is unwarranted variation?
If clinical variation does not reflect a difference in patients’ clinical needs or preferences, it is unwarranted and represents an opportunity for the system to improve. Not all clinical variation is bad, and if it does reflect differences in patients’ clinical needs or preferences, it is desirable.

What is appropriate care?
Appropriate care means that patients are receiving the right care, and the right amount of care according to their needs and preferences, at the right time. The care offered should also be based on the best available evidence.
Key steps to implementing Action 1.28

Clinicians and managers work together to:

1. **Select clinical priority areas for monitoring and reporting variation**
   
   Focus on the clinical areas of highest preventable risk to patients or highest activity in the health service organisation. Select these areas using the available clinical and administrative data, information on risks and input from clinicians.

2. **Identify how clinical variation will be monitored**
   
   For the clinical priority area(s), identify:
   - Reports, clinical quality registries or audits, or data-based quality improvement activities, and/or
   - Evidence-based guideline recommendations or a clinical care standard.

3. **Measure clinical variation and review performance**
   
   Have processes to:
   - Measure care delivered and outcomes achieved in the health service organisation – you can do this at the level of clinicians, clinical teams and/or the whole organisation
   - Compare your data to external data and/or to evidence-based guideline recommendations or a clinical care standard. Sources of external data include clinical quality registries, external reports and audits, and peer health service organisations
   - Assess the clinical importance of any noted variation and take action if required.

4. **Explore reasons for variation**
   
   If the variation is clinically important, determine the potential contributing factors. Consider clinician, consumer and health system-related factors.

5. **Act to improve care and embed changes within the health service organisation**
   
   Take action to improve care where needed.

6. **Record and report activities to monitor clinical variation and improve appropriateness of care**
   
   Have processes to:
   - Maintain records of reviews of clinical variation and actions taken
   - Report findings and resulting actions at clinical and management meetings
   - Report to the governing body and the workforce
   - Monitor the impact of actions to address unwarranted variation.

See Appendix 1 for case studies, which show examples of how each step could be completed.

**Small service – simpler project**

Projects conducted by small health service organisations can be simpler and targeted on one specific area of safety and quality. For example, they may involve auditing one clinical area against one aspect of an evidence-based guideline or a clinical care standard that is regularly used by the health service.

Smaller, simpler projects are appropriate for day procedure services and small hospitals (generally under 50 beds).
1. Select clinical priority area(s) for monitoring and reporting variation

Select areas of clinical care based on:

- High volume of patients
- High risk to patients, regardless of volume
- High morbidity, mortality or patient dissatisfaction
- Clinical areas identified in the health service’s risk register as high or potentially high risk
- Evidence that overuse or underuse of the intervention increases risk to patient health
- Advice from clinical leaders in the health service organisation
- Availability of external data or standards/guidelines for comparison with the health service organisation’s practice
- Clinical areas where new evidence or technology has substantially changed the standard of care.

The number and type of clinical areas selected should reflect the size and range of clinical activity, and extent of their risks, in the health service organisation. See the Table for some suggested clinical areas to investigate, and example sources of evidence-based recommendations.
Table. Ideas for clinical areas to investigate and example sources of evidence-based recommendations

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<thead>
<tr>
<th>Topic</th>
<th>Example sources of evidence-based recommendations</th>
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<tr>
<td>Venous thromboembolism prevention</td>
<td>Venous Thromboembolism Prevention Clinical Care Standard</td>
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<td>Acute coronary syndrome management</td>
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<td>Stroke management</td>
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<td>Delirium management</td>
<td>Delirium Clinical Care standard</td>
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<td>Colonoscopy*</td>
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<td>Cataract surgery*</td>
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<td>Hip fracture management</td>
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<td>Osteoarthritis of the Knee Clinical Care Standard</td>
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<tr>
<td>Hysterectomy*</td>
<td>Heavy Menstrual Bleeding Clinical Care Standard</td>
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<tr>
<td>Use of opioid medicines</td>
<td>Choosing Wisely recommendations, Faculty of Pain Medicine, Australian and New Zealand College of Anaesthetists</td>
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<tr>
<td>Wound management</td>
<td>Ulcer and Wound Management, Therapeutic Guidelines</td>
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<tr>
<td>Quality use of medicines</td>
<td>See National Quality Use of Medicines Indicators for Australian Hospitals</td>
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<tr>
<td>Tonsillectomy*</td>
<td>Clinical Practice Guideline: Tonsillectomy in Children (Update), American Academy of Otolaryngology–Head and Neck Surgery</td>
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<td>Use of seclusion and/or physical restraint</td>
<td>Relevant state or territory guidelines</td>
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<td>National Principles to Support the Goal of Eliminating Mechanical and Physical Restraint in Mental Health Services, Restrictive Practice Working Group, Australian Health Ministers’ Advisory Council</td>
</tr>
<tr>
<td>Topic</td>
<td>Example sources of evidence-based recommendations</td>
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| Caesarean section* and gestational age at planned birth* | **Caesarean section clinical guideline**, National Institute for Health and Care Excellence, UK  
**Cesarean Delivery on Maternal Request**, American College of Obstetricians and Gynecologists Committee Opinion  
**Timing of elective caesarean section at term**, The Royal Australian and New Zealand College of Obstetricians and Gynaecologists |
| Use of antipsychotic medicines* in people with dementia or delirium | **Delirium Clinical Care Standard**  
**Clinical Practice Guidelines and Principles of Care for People with Dementia**, NHMRC Partnership Centre for Dealing with Cognitive and Related Functional Decline in Older People  
**Antipsychotic medications as a treatment of behavioural and psychological symptoms of dementia**, Royal Australian and New Zealand College of Psychiatrists Professional Practice Guideline 10 |
| Spinal fusion* | **Choosing Wisely recommendations**, Faculty of Pain Medicine, Australian and New Zealand College of Anaesthetists  
**Management of People with Acute Low Back Pain: Model of Care**, NSW Agency for Clinical Innovation  
**Low back pain and sciatica in over 16s: assessment and management**, National Institute for Health and Care Excellence, UK |

*Australian Atlas of Healthcare Variation data* available for these topics
2. Identify how clinical variation will be monitored

Once you have chosen the clinical area, you will need to decide whether you will compare your data against data from other health service organisations, and/or evidence-based guideline recommendations or a clinical care standard. This decision will be influenced by the availability of these comparators.

You will also need to decide whether you will use clinical team data, departmental level data and/or health service organisation level data, for comparison with external data, guideline recommendations or standards.

In some cases there may be substantial variation within the health service organisation even if the data do not show marked variation at a whole-of-organisation level compared with external data or with guidelines. For this reason, exploring the data at the level of clinical teams as well as whole-of-organisation level is very useful for ensuring appropriate care.

Comparison with external reports, clinical quality registries and/or audits

There are many sources of external data on clinical care that health service organisations can use for comparison with their own data.

State and territory performance reports

Reports that include data on aspects of clinical care delivery and appropriateness of care are available for many states and territories. For example:

- Safer Care Victoria reports on perinatal services and renal services
- the New South Wales Bureau of Health Information reports a number of clinical indicators in Healthcare in Focus
- The WA Department of Health provides WA public hospitals access to the Safety and Quality Indicator Set (SQuIS), which shows variation and outliers.

Clinical quality registries

Clinical quality registries monitor appropriateness and effectiveness of specific types of care. The data collected are used to identify benchmarks and variation in clinical outcomes and the information is provided back to clinicians to help improve clinical practice. For example, the Australian and New Zealand Society of Cardiothoracic Surgeons National Cardiac Surgery Database records details of all adult cardiac surgery undertaken in participating hospitals and publishes annual reports.

Multiservice clinical audits

Some specialty groups conduct clinical audits across a number of health service organisations. For example, the Stroke Foundation has a biennial audit of acute and rehabilitation services for stroke and produces annual reports on the use of stroke clinical guidelines and on processes and outcomes of care for patients included in the Australian Stroke Care Registry. These reports identify the levels of care achieved on average and by the highest performing 15% of services.

Reports on Patient Reported Outcome Measures (PROMS)

PROMS reflect the patient’s assessment of how clinical care and health care interventions have affected their quality of life, daily functioning, symptom severity and other dimensions of health. Routine reporting of PROMS is not yet embedded in the Australian healthcare system but in some areas reports on PROMS are available. For example, every six months the Palliative Care Outcomes Collaboration provides patient outcome reports, including state/territory and national benchmarks, to participating clinical services.
The Australian Atlas of Healthcare Variation series

The Australian Atlas of Healthcare Variation series shows age- and sex-standardised variation in use of health care based on where patients live. For example, variation in age- and sex-standardised rates of both public and private hospital admissions for specific conditions or procedures, rates of dispensing for medicines included in the Pharmaceutical Benefits Scheme, and rates of tests and procedures subsidised by the Medical Benefits Schedule. Health service organisations with defined catchment areas can use these reports to examine use of health care interventions in their area.

Comparison with clinical care standards and evidence-based guideline recommendations

A range of clinical care standards and evidence-based guideline recommendations are available for comparison with practice. Clinical leaders and managers should identify which specific aspects of a standard or guideline will be monitored in the health service organisation.

Clinical care standards

Clinical care standards define the care people should be offered for a specific condition, regardless of where they are treated in Australia. Each clinical care standard contains a small number of quality statements that align with current best evidence.

Every clinical care standard has a set of recommended indicators to monitor implementation. See Appendix 2 for links to each clinical care standard.

Evidence based guidelines

Clinical practice guidelines often have a large number of recommendations covering different aspects of care. These recommendations usually vary in strength of the underlying evidence, strength of the recommendation itself, the likely impact on patient outcomes and the extent to which adherence to the recommendation can be easily measured. These factors can guide decisions about which recommendations are best to monitor.

Links to clinical practice guidelines can be found on the NHMRC clinical guideline portal and on specialty group sites (e.g. Cancer Council Australia, Stroke Foundation, Kidney Foundation) or through portals provided by state and territory governments (e.g. the Clinical Information Access Portal in NSW).

Recommendations by specialty groups in Australia and New Zealand as part of the global Choosing Wisely initiative or the Royal Australasian College of Physicians’ Evolve program can also be used for monitoring variation in care.
3. Measure clinical variation and review performance

This step requires health service organisations to have processes to:

- Measure clinical care delivered and outcomes achieved in the health service organisation
- Compare the care delivered or outcomes achieved within the health service organisation to those of other organisations, using external reports, clinical quality registries and audits, and/or
- Assess the extent to which care delivery and outcomes align with evidence-based guideline recommendations and clinical care standards
- Assess the clinical importance of any noted variation and take action if required.

Use a clear, consistent definition of the measures or indicators to be assessed to allow meaningful comparison with other health service organisations’ data and with guidelines or standards. In many instances there are existing high quality indicators that can be used to enable consistent measurement over time and allow comparison with results from similar health service organisations. Most of the quality statements that form clinical care standards have accompanying indicators that can be used when measuring levels of adherence (Appendix 2).

Other key requirements include definition of the target population – the group of patients who should be offered the specific type of care outlined in the clinical care standards or guideline recommendations – and identification of the benchmarks that should be achieved within the health service organisation.

Clinical records can then be audited using the systems established for this purpose – Action 1.16 of Standard 1, Clinical Governance requires the health service organisation to have healthcare record systems that support systematic audit of clinical information.

If electronic systems are used to extract information it should be possible to determine whether care was provided to all eligible patients within a certain time period. However, if manual collection of information from medical records is required it may only be feasible to collect information from a sample of patients. Once the information has been collected it can be summarised and the extent of any gaps between best evidence and current practice can be assessed.

See Appendix 1 for a hypothetical example of collecting data on clinical care: Collecting and analysing data on prescribing secondary prevention medicines after acute coronary syndrome.

For detailed advice on data collection and analysis, see resources such as:

- A guide to using data for health care quality improvement
- Quality improvement tools
- Quality Improvement Essentials Toolkit.
4. Explore reasons for clinical variation

Auditing the relevant aspects of patient records is an effective way to gain insights into how and why clinical care is deviating from best practice. Ensuring relevant staff discuss the findings as a group will draw out different perspectives on processes that affect clinical care, and can help foster a team approach to improving practice.

There are many reasons for variation in rates of care processes and in outcomes of care. Variation can be due to differences in the needs of patients, in which case it is warranted and desirable. Other reasons for clinical variation include:

- Clinical care not changing in line with updated evidence
- Differences in clinicians’ knowledge of the latest evidence or skills related to new diagnostic or interventional procedures
- Clinical uncertainty about an intervention’s place in therapy, and the need for better data on its benefits and harms
- Inequity of access to care
- Effects of financial incentives or disincentives
- Inadequate system supports for appropriate care
- Inadequate information sharing and discussion with consumers.

It is important to give patients clear information about options, and to provide adequate opportunity to discuss this information, so they can make properly informed choices. For some interventions there is a lack of data on benefits and risks; in this situation it is important to discuss what is known and what is unknown, and what the other options are.

Relatively low or high rates of use of an intervention may arise for reasons other than decisions made by individual clinicians. For example, low use of some interventions may signal a problem with access to clinical care for people who need certain tests, treatments or procedures. In this instance the health service organisation may need to examine whether services, and the workforce and resources to deliver them, are appropriately allocated given the needs of people within their catchment area. However, unwarranted variation in use may also indicate ongoing use of an outdated method of treatment, and signal the need for clinical training in new procedures or treatments. Unwarranted high rates of interventions may also occur because of an oversupply of workforce or technology leading to lowering of clinical thresholds for undertaking these interventions.

Occasionally the investigation will lead you to a pattern of problems with individual or team decision-making or skills. In this situation, consider what extra support is needed to deliver the best possible care, discuss with the relevant manager to determine whether external review is needed, and follow performance review processes in accordance with Action 1.22 of Standard 1, Clinical Governance. Also implement the incident management systems (Action 1.11 of Standard 1, Clinical Governance) and open disclosure (Action 1.12 of Standard 1, Clinical Governance) when relevant.

For detailed advice on auditing patient records and other methods of investigating reasons for clinical variation, see resources such as:

- A guide to using data for health care quality improvement, Victorian Government
- Quality improvement tools, NSW Clinical Excellence Commission
- Quality Improvement Essentials Toolkit, Institute for Health Improvement (IHI).
5. Act to improve care and embed changes within the health service organisation

Actions to improve appropriateness of care that are prompted by your variation findings should be incorporated into the organisation’s overall approach to safety and quality improvement.

Continuous quality improvement occurs through a cyclical approach:

1. Specify the desired goal for improvement
2. Explore the reasons for current practice
3. Identify the barriers or enablers for any desired change in practice
4. Make changes to health care processes
5. Monitor progress and make further changes as necessary.

Actions to improve appropriateness of care will need to be embedded in the health service organisation for improvements to care to be sustained. For detailed advice on quality improvement methods, see resources such as:

- A guide to using data for health care quality improvement, Victorian Government
- Quality improvement tools, NSW Clinical Excellence Commission
- Quality Improvement Essentials Toolkit, Institute for Health Improvement (IHI).

‘Case for improvement’ documents, which are available for each clinical care standard, provide further useful information for quality improvement. For each quality statement in a clinical care standard, the ‘case for improvement’ document lists:

- Why is it important?
- What is known about current practice?
- What could be achieved with more consistent application of the aspects of care described?

When possible, examples are provided showing how specific approaches or systems for implementing best practice have demonstrated measurable change.

Do not delay investigating patient care to check data

If you have found that practice within the health service varies substantially from other health service organisations or from evidence-based guideline recommendations or clinical care standards, the priority—and prime responsibility—is to ensure there is no immediately obvious problem with patient care. Do not delay investigating potentially suboptimal care in order to recheck data.
6. Record and report activities to monitor clinical variation and improve appropriateness of care

The health service organisation should maintain records of reviews and actions taken as a result of examining variation and appropriateness of care. Processes should be in place to report actions and outcomes, consistent with the requirements of Action 1.9 of Standard 1, Clinical Governance (Box 3).

Clinicians have a professional responsibility to review the care they provide and to participate in efforts to improve quality of care. The organisations they work in need to ensure that there is clinical participation in internal reviews of clinical care performance and should also encourage and provide practical support for clinical participation in relevant external clinical quality registries and audits. Records of clinician participation in reviews of performance and outcomes should be maintained in such a way that it is possible for clinicians to use these to demonstrate compliance with continuing professional development requirements if their College and the performance review processes of the organisation (Action 1.22 of Standard 1, Clinical Governance).

Box 3.

NSQHS Standard: Clinical Governance Standard

Criteria: Measurement and quality improvement

Action 1.9: The health service organisation ensures that timely reports on safety and quality systems and performance are provided to:

a) The governing body
b) The workforce
c) Consumers and the local community
d) Other relevant health service organisations.
Types of Evidence

The following types of evidence can be used to show how health service organisations are implementing Action 1.28:

- Policy documents that identify the external clinical quality systems that the health service organisation contributes to and encourages its clinicians to take part in
- Reports on data analyses that are used to identify variation in clinical practice and areas of risk associated with variation in clinical practice
- Reports that compare clinical practice and outcomes with those of similar services or peer organisations
- Reports on comparative data analysis from meetings involving clinicians that identify potential reasons for any variation, further investigations that may be needed and potential areas of risk associated with variation in clinical practice
- Comparative data analysis on clinical variation and the outcomes associated with care using external sources such as the Australian Atlas of Healthcare Variation, or data provided by, or shared with, external organisations such as clinical quality registries, the Health Roundtable, peer organisations, and states and territories
- Committee and meeting records in which reports on clinical variation or appropriateness of practice were discussed, and clinicians assessed interventions and managed changes in practice
- Audit results of clinical practice against the recommended best-practice guidelines, pathways or clinical care standards, and reports on findings that are provided to all relevant clinicians, managers and committees
- Records of clinical participation in morbidity and mortality reviews, external audits of clinical care, and external clinical registries
- Risk management system reports that include actions to manage identified risks associated with unwarranted variation
- Quality improvement system reports that includes actions to deal with identified issues
- Examples of improvement activities that have been implemented and evaluated to reduce unwarranted variation.

Health service organisations should also ensure that records are kept of clinician participation in reviews of clinical variation so that they can be used by practitioners to demonstrate compliance with continuing professional development requirements e.g. the continuing professional requirements for medical practitioners (Box 4).

Box 4. Medical practitioners’ continuing professional development

Stronger continuing professional development is one of the core features of the Medical Board of Australia’s proposed new Professional Performance Framework for medical practitioners. As well as participating in educational activities to build knowledge and skills, medical practitioners will be required to review their performance and measure the outcomes of care they provide.

The expectation that health service organisations review variation and appropriateness of clinical care is consistent with the expectation of the registering body that individual medical practitioners should regularly review their performance and outcomes.
Appendix 1: Case studies

1. Variation in discharge planning after stroke at a regional hospital

2. Variation in waiting time before surgery at a major metropolitan hospital after a hip fracture

3. Variation in waiting time at a major regional hospital for colonoscopy after positive faecal occult blood test

4. Collecting and analysing data on prescribing secondary prevention medicines after acute coronary syndrome
## Case study 1. Variation in discharge planning after stroke

<table>
<thead>
<tr>
<th>Process step</th>
<th>Example actions</th>
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<tr>
<td><strong>Select clinical priority areas for monitoring variation</strong></td>
<td>The head of the stroke unit selected discharge planning as a priority after a patient was readmitted with a second stroke following discharge without secondary prevention medication. Apart from reducing the risk of another stroke, formal discharge planning can improve the coordination of services and reduce long-term unmet needs for people who have had a stroke. Patients with stroke who are provided with care in a stroke unit and a care plan for discharge and antihypertensive medicine can achieve a 4-point greater overall quality-of-life score within 3-6 months of discharge compared to patients who do not receive this best practice care bundle. Individualised care plans are also part of the Acute Stroke Clinical Care Standard, so improving practice in this area would help the hospital meet Action 1.7 of Standard 1, Clinical Governance. The hospital already contributes to the Australian Stroke Clinical Registry (AuSCR), so no new data collection would be needed. Benchmark, national and state data are available for comparison.</td>
</tr>
<tr>
<td><strong>Identify how variation will be monitored</strong></td>
<td>The clinical team including the stroke unit’s head of department, the stroke clinical nurse consultant and the hospital pharmacist recommended that the Stroke Unit review the hospital’s AuSCR data for the previous year, along with national and state data. They chose two of the indicators related to discharge planning as their initial focus: 1. Care plan provided at discharge, outlining post discharge care in the community developed in consultation with the patient 2. Discharged on an antihypertensive medicine.</td>
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<tr>
<td><strong>Measure clinical variation and review performance</strong></td>
<td>The clinical nurse consultant generated a report from the online AuSCR portal. The hospital was close to average for most indicators, but performed poorly in discharge care. 1. Only 49% of patients had a care plan on discharge after a stroke, compared to the benchmark of 95% and the national average of 59% 2. And 60% were discharged on antihypertensive medication, compared to the national average of 70%.</td>
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* Based on a composite of real cases
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<th>Process step</th>
<th>Example actions</th>
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| Explore potential reasons for observed variation     | The clinical nurse consultant presented the results at a meeting of staff who contribute to discharge planning for patients with stroke. The group included medical, nursing, pharmacy, allied health staff and a consumer advocate. The group identified several aspects of processes and practice that were contributing to inconsistent discharge care planning:  
  - Lack of awareness of appropriate prescribing of secondary prevention medication, compounded by rotation of staff  
  - Lack of a system to ensure appropriate prescribing of secondary prevention medication  
  - Lack of an appropriate discharge care planning template. |
| Act to improve care and embed changes within the health service organisation | At a follow up meeting to discuss strategies to improve discharge planning, the group agreed to a range of changes:  
  - Discharge care planning to be included in orientation of new staff  
  - The checklist for leaving hospital in the Stroke Foundation booklet ‘My stroke journey’ to be used as a template for discharge planning  
  - Recommendations and evidence for secondary prevention to be added to bedside charts as a reminder  
  - Senior medical, nursing and allied health staff to discuss discharge care planning for stroke patients on all ward rounds over the following two weeks, and to lead education sessions on the importance of discharge care planning in the following month  
  - Pharmacy staff to alert the medical team if secondary prevention medicines are not included at discharge. |
| Record and report activities to monitor clinical practice variation and improve appropriateness of care | Follow up after three months showed a small improvement in both indicators, but the hospital was still below the national benchmark and even below the national average. To improve discharge planning further, a team of medical and allied health staff was formed to review the clinical notes for all patients with stroke before discharge.  
Review at six months showed that the hospital had reached the national averages for percentage of patients with a discharge plan and for prescription of secondary prevention medication for stroke, but had not met the benchmark. Local results for all indicators (measures) from the registry are reviewed every quarter at a multidisciplinary stroke meeting. Priorities for new quality improvement initiatives are also discussed in light of the hospital’s performance in comparison to national and state data and benchmarks. |
Resources for monitoring and improving stroke management

- Stroke Foundation audit, Clinical Guidelines\textsuperscript{8} and other resources
- Stroke Clinical Care Standard
- The Australian Stroke Clinical Registry
- Acute Stroke – the Case for Improvement
## Case study 2. Variation in waiting time before surgery at a major metropolitan hospital after a hip fracture*

<table>
<thead>
<tr>
<th>Process step</th>
<th>Example actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select clinical priority areas for monitoring variation</td>
<td>The head of the orthopaedic surgery department chose to investigate variation in management of hip fracture because it makes up a large part of the department’s activity, and it is a high risk condition. Providing surgery within 48 hours of presentation if no clinical contraindication exists, and the patient prefers surgery, was identified as the first priority for attention because it improves clinical outcomes, and it is part of the clinical care standard for hip fracture. Addressing this issue also meets Action 1.7 of Standard 1, Clinical Governance because it involves following a Clinical Care Standard.</td>
</tr>
<tr>
<td>Identify how variation will be monitored</td>
<td>The department already contributes data to the Australian and New Zealand Hip Fracture Registry (ANZHFR), which monitors practice according to the Clinical Care Standard. The Registry online portal includes a dashboard showing the hospital’s results in seven aspects of care specified in the Clinical Care Standard, and the annual report of the ANZHFR shows each contributing hospital’s performance, as well as the state/territory and national averages. As a starting point, the head of department asked the orthopaedic registrar to present the hospital’s Registry results, and the state and national averages from the latest annual report, at the monthly department meeting.</td>
</tr>
<tr>
<td>Measure clinical variation and review performance</td>
<td>Review of three month’s data showed that only 50% of the hospital’s patients with hip fracture underwent surgery within 48 hours, compared to the national average of 77%, and the ideal rate of 100% of eligible patients. The department felt this poor result needed to be addressed urgently, and a team made up of orthopaedic surgeons, nurses, and geriatricians was created to investigate the issue and find potential solutions. The department also noted that their total length of stay was well above average, and it was possible that the delays to theatre were contributing to the overall increase in total length of stay.</td>
</tr>
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* Based on a composite of real cases
Explore potential reasons for observed variation
The team met to discuss the possible reasons for the delays in surgery. A comparison of the reasons for delay in the hospital, compared with national averages in the registry annual report, showed that:

- The proportion of delays due to patients being medically unfit for surgery, or lack of surgeon availability, were similar to those in other hospitals
- Length of stay in the emergency department was also similar
- A lack of theatre availability was substantially higher than the national average.

A discussion about theatre access highlighted a number of areas for improvement. Patients presenting on Fridays or the weekend had the greatest delays because no theatre time was allocated on Saturdays or Sundays for hip fracture surgery. The group also noted that patients with hip fracture often had their surgery cancelled when cases seen as more urgent were brought into the hospital. This contributed to delays, and also led to prolonged and unnecessary fasting for patients.

Act to improve care and embed changes within the health service organisation
The group made a case to the hospital manager for introducing a Sunday morning theatre list dedicated to hip fracture surgery. They presented the hospital’s performance compared with the national average, and against the clinical care standard quality statements.

The hospital manager determined that reducing delays in surgery for hip fracture was a priority for improving patient care, and introduced the additional, dedicated theatre time.

Record and report activities to monitor clinical practice variation and improve appropriateness of care
Follow up monitoring showed a reduction in delays to surgery, and the hospital became close to the national average. Reports generated from the hip fracture registry portal are discussed at a quarterly meeting between the orthopaedic surgery and geriatric departments, and are included in the hospital’s regular safety and quality reports to the board.

The department continues to check that delays to surgery are minimised, and is now focussing on the quality indicators for pain management in the hip fracture clinical care standard as well as patient outcomes.

Resources to monitor and improve hip fracture care
- Hip Fracture Care Clinical Care Standard
- Australian and New Zealand Hip Fracture Registry
- The Australian and New Zealand Guideline for Hip Fracture Care
- Hip Fracture Care – the Case for Improvement
Case study 3. Variation in waiting time at a major regional hospital for colonoscopy after positive faecal occult blood test

### Process step

<table>
<thead>
<tr>
<th>Identify how variation will be monitored</th>
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</table>

#### Example actions

- A clinical nurse consultant (project manager), two gastroenterologists, and two surgeons worked together to determine their target waiting time. They found that the national median time between a positive screening test and diagnostic assessment was 54 days, according to the National Bowel Cancer Screening Program monitoring reports. No relevant clinical quality registries or audits were identified.

The project team decided to aim for a maximum of 30 days between referral and colonoscopy after reviewing national recommendations for waiting time between a positive FOBT and colonoscopy:

The National Bowel Cancer Screening Program performance framework recommends a maximum of 30 days.

Cancer Council Australia guidelines state that colonoscopy should be performed as promptly as possible after a positive FOBT to minimise psychological harm, although there is no evidence that prognosis is worsened within 120 days if cancer is present.

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* Based on a real case
### Process step

<table>
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<tr>
<th>Measure clinical variation and review performance</th>
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<tr>
<td>The team decided to monitor waiting time for colonoscopy regularly, and compare it with the national median (54 days), and the benchmark of 30 days.</td>
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<tr>
<td>The project manager reviewed records for all patients referred for colonoscopy due to a positive faecal occult blood test over a one month period. The median waiting time was 82 days, and the range was 28 – 435 days. The project manager presented the findings to staff at a department meeting.</td>
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<tr>
<td>The long median waiting time showed substantial variation from the benchmark of a maximum of 30 days, and the wide range showed large variation within the service. The team decided the risk to patients was high, and warranted immediate action.</td>
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<tr>
<th>Explore potential reasons for observed variation</th>
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<tr>
<td>The project team identified the key relevant staff, including the endoscopists, cancer services, facility managers, bookings administrators, and information technology experts. The team met with these groups to discuss the causes of the long waiting times, as well as challenges and potential improvements. The discussions identified two major reasons for delays:</td>
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<tr>
<td>• Waiting for appointments at the gastroenterology outpatient clinic for screening for suitability for colonoscopy, which could be done by phone</td>
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<tr>
<td>• Referrals to individual clinicians for colonoscopy rather than for the next available list vacancy in the service.</td>
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<td>Surveillance colonoscopies accounted for a large proportion of procedures, and after review of records, the team found that many patients underwent surveillance more frequently than guidelines recommend.</td>
</tr>
<tr>
<td>The team also noticed a high proportion of patients were having both gastroscopy and colonoscopy. They accessed gastroscopy data for local areas (SA3s) within their local hospital network in the <a href="#">interactive Australian Atlas of Healthcare Variation</a>, which showed markedly higher rates than the national average. They also reviewed the relative rates of upper and lower gastrointestinal cancer in Australia (Figure 2). A review of outcomes of gastroscopies in the hospital in the past year on patients without evidence-based indications showed no cases of serious pathology were found.</td>
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<tr>
<th>Act to improve care and embed changes within the health service organisation</th>
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<tbody>
<tr>
<td>Redesigning the referral and booking system was agreed as the best way to reduce delays. The health service executive allocated a position to set up a direct access colonoscopy model.</td>
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<td>A process for rapid access with phone screening was developed, in which suitable patients proceeded to colonoscopy and bypassed outpatient clinics and complex patients were assessed in outpatient clinics. The allocation to colonoscopy lists was based on patient factors, colonoscopy waiting list size.</td>
</tr>
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</table>
A HealthPathway for colorectal and positive FOBT referrals was developed, including a standardised referral form and a central referral point for all patients. Education sessions were delivered to referring GPs on FOBT screening and the new referral system.

The team also put in place referral criteria for gastroscopy to reduce unnecessary procedures and to free up theatre time for colonoscopies for people with positive FOBTs. They also put in place systems to alert clinicians to the recommended follow up intervals for surveillance colonoscopy.

A review of the six-month pilot of the rapid access colonoscopy model showed that the median waiting time was reduced by 38 days (46%) compared with the previous data, and the range narrowed to 11-188 days.

The service is continuing to monitor waiting time each quarter to check whether the improvements are sustained, and reports the results to the hospital board. The service is also trialling further system changes, with the aim of achieving a maximum 30 day waiting time. The changes and corresponding data are reported back to clinicians and the board regularly.

Figure 2. Incidence of bowel cancer, oesophageal cancer and stomach cancer per 100,000 people, by age group and sex, in Australia, 2014

**Case study 4. Variation in prescribing secondary prevention medicines after acute coronary syndrome†**

<table>
<thead>
<tr>
<th>Process step</th>
<th>Example actions</th>
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<tbody>
<tr>
<td>Select clinical priority areas for monitoring variation</td>
<td>The head of the cardiology department of Hospital X chose to investigate the prescribing of secondary preventive medicines for patients with acute coronary syndrome. This aspect of care was chosen because it is relevant to a large proportion of patients and it is important for reducing the risk of further cardiac events.</td>
</tr>
<tr>
<td>Identify how variation will be monitored</td>
<td>The department head knew of the <em>Acute Coronary Syndromes Clinical Care Standard</em>, and the cardiac registrar found a published audit of Australian hospitals that included rates of secondary preventive medicines prescribing. The same patient inclusion and exclusion criteria from the audit were used for the hospital’s variation project so the data could be directly compared.</td>
</tr>
</tbody>
</table>
| Measure clinical variation and review performance | The resident medical officer extracted the data from the electronic records for all patients who met the criteria for each of the previous three months. The percentage of patients who were prescribed secondary preventive medicines was 60%, 70% and 65% for each of the three months. This gave an average of 65% in this snapshot period.    The published audit found an average rate of 71% across Australian hospitals, which showed the department that they were performing below average on this aspect of care. The team also compared practice with the *Acute Coronary Syndromes Clinical Care Standard*, which includes this statement:  

‘Before a patient with an acute coronary syndrome leaves the hospital, they are involved in the development of an individualised care plan. This plan identifies the lifestyle modifications and medicines needed to manage their risk factors.’  

The data were presented to the cardiology department teams, who could see they were not meeting this aspect of the standard for up to 35% of their patients over the past three months.  

The department decided that this gap in care was unacceptable and required urgent action. The Australian average rate of 71% in the published audit was noted to be alarmingly low by the study authors. The department decided to aim to at least... |

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† Hypothetical example
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<tr>
<th>Process step</th>
<th>Example actions</th>
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<tbody>
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<td></td>
<td>achieve this average rate as their initial goal, and to aim for a higher benchmark in the long term.</td>
</tr>
<tr>
<td>Explore potential reasons for observed variation</td>
<td>Medical, nursing, pharmacy and allied health staff met to discuss possible reasons for the poor performance in prescribing secondary prevention medicines. A lack of a standardised process, and lack of awareness of the effectiveness of secondary prevention, were thought to be the main contributors.</td>
</tr>
<tr>
<td>Act to improve care and embed changes within the health service organisation</td>
<td>Education sessions on recommended secondary prevention medicines were held at the regular department meetings and a discharge checklist that included prescribing secondary prevention medicines was introduced. The hospital pharmacist also provided one-on-one education sessions with medical staff.</td>
</tr>
<tr>
<td>Record and report activities to monitor clinical practice variation and improve appropriateness of care</td>
<td>The department used the relevant indicators in the <em>Acute Coronary Syndromes Clinical Care Standard</em> to monitor performance going forward. The department head also collaborated with several other similar hospitals to compare data every quarter and exchange lessons learned.</td>
</tr>
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</table>
Appendix 2: Clinical care standards

A complete list of national clinical care standards can be accessed on the Australian Commission on Safety and Quality in Health Care’s (the Commission) website at www.safetyandquality.gov.au/our-work/clinical-care-standards/

The following clinical care standards are currently available:

- Acute Coronary Syndromes Clinical Care Standard
- Acute Stroke Clinical Care Standard
- Antimicrobial Stewardship Clinical Care Standard
- Colonoscopy Clinical Care Standard
- Delirium Clinical Care Standard
- Heavy Menstrual Bleeding Clinical Care Standard
- Hip Fracture Care Clinical Care Standard
- Osteoarthritis of the Knee
- Venous Thromboembolism Prevention Clinical Care Standard
References


