Risk Management and Quality Improvement Handbook, July 2013

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Definitions

Quality: the extent to which a health care service or product produces a desired outcome.¹

Quality improvement: an ongoing response to quality assessment data about a service in ways that improve the processes by which services are provided to consumers / patients.²

Quality Improvement Plan: a document that outlines at a minimum what area requires improvement, how an organisation intends to carry out that improvement, timeframes and responsibilities. The size, type, complexity and location of the organisation will influence the activities to be undertaken. The Quality Improvement Plan should be provided to ACHS with the self-assessments in the non-survey phases of the accreditation cycle. It should also be available for surveyors to review at any onsite surveys.

Risk: the effect of uncertainty on objectives.³ A healthcare organisation’s objectives have different aspects, such as clinical, financial, health and safety or environmental, and they apply at the strategic, organisation-wide, unit, project or process levels. In the context of risk, uncertainty is defined as “the state, even partial, of deficiency of information related to understanding or knowledge of an event, its consequence, or likelihood”. Any deviation from the expected can result in a positive and/or negative effect. Therefore, any type of risk, whatever its nature, may have either (or both) positive or negative consequences.

Risk management: the coordinated activities to direct and control an organisation with regard to risk.³

Risk management process: the systematic application of management policies, procedures and practices to the activities of communicating, consulting, establishing the context, and identifying, analysing, evaluating, treating, monitoring and reviewing risk.³

Risk Register: a centralised record that identifies for each known risk:

- a description of the risk, its causes and its impact
- an outline of the existing controls, including the person accountable for managing the risk
- an assessment of the consequences of the risk should it occur and the likelihood of the consequence occurring, given the controls
- a risk rating
- an overall priority for the risk.
Introduction

This document is the *Risk Management and Quality Improvement Handbook*. It is designed to complement the EQuIPNational programs of The Australian Council on Healthcare Standards (ACHS) by providing information to assist member organisations with the development of their Quality Improvement Plan and Risk Register, which are requirements of the EQuIPNational program, and the National Safety and Quality Health Service (NSQHS) Standards program.

This publication is available from the members’ section of the ACHS website as an eBook.

**The EQuIPNational Framework**

The key components of EQuIPNational are:

- Ten NSQHS Standards that organisations are required to be accredited against
- Five ACHS EQuIP-content Standards that build on concepts in the NSQHS Standards and cover the performance of service delivery, care provision and non-clinical systems
- A yearly Self-Assessment to evaluate organisational performance against the Standards
- Provision by the member organisation of a Risk Register and a Quality Improvement Plan
- ACHS assistance and guidance on the organisation’s Self-Assessment
- Biennial onsite surveys by an external, experienced team of ACHS accreditation surveyors, to provide an independent assessment of the organisation’s performance against the Standards and recommendations for improvement
- The improvement process undertaken by organisations to address the recommendations from the onsite surveys.

It is envisaged that a planned, systematic approach to implementing the EQuIPNational Program will support and enable organisations to achieve successfully their mission and goals and organisational effectiveness.
The EQuIPNational Standards

The ACHS EQuIPNational program consists of 15 Standards, including the ten NSQHS Standards:

1. Governance for Safety and Quality in Health Service Organisations
2. Partnering with Consumers
3. Preventing and Controlling Healthcare Associated Infections
4. Medication Safety
5. Patient Identification and Procedure Matching
6. Clinical Handover
7. Blood and Blood Products
8. Preventing and Managing Pressure Injuries
9. Recognising and Responding to Clinical Deterioration in Acute Health Care
10. Preventing Falls and Harm from Falls

And the five EQuIP-content standards:

11. Service Delivery
12. Provision of Care
13. Workforce Planning and Management
14. Information Management
15. Corporate Systems and Safety
Section 1

Risk Management and Quality Improvement

Quality improvement has always been an integral part of EQuIP. ACHS provides information on risk management and quality improvement within this handbook to assist organisations to manage risks at the organisational, division, department and system levels and to ensure that quality of care and services are integrated.

The EQuIPNational program provides a framework for organisations to evaluate their performance in risk management and quality improvement. It is expected that each organisation will identify and implement effective risk and quality management processes consistently and in accordance with the organisation’s role. ACHS surveyors will consider risk management processes, consumer / patient safety and quality of care and services when assessing organisational performance against each action and when making suggestions and recommendations on survey results.

Healthcare organisations’ systems for risk management and quality improvement are reviewed within the National Safety and Quality Health Service (NSQHS) Standards under Standard 1: Governance for Safety and Quality in Health Service Organisations. In addition, NSQHS Standards 3-10 require organisations to undertake a risk assessment of their systems. For example, NSQHS Standard 4 requires a risk assessment of medication management systems. These risk assessments are managed by the associated governance committees with key risks also being represented on the organisation-wide Risk Register. The same applies for quality plans. Organisations are required to submit a Quality Improvement Plan at each phase of their accreditation cycle and have a register of the organisational risks (Risk Register) available for ACHS surveyors at each onsite survey. This Risk Management and Quality Improvement Handbook is provided to assist organisations to develop and monitor both the organisation-wide Risk Register and the Quality Improvement Plan.

The risk management information in this handbook does not duplicate or replace AS/NZS ISO 31000:2009 Risk Management, but is designed to provide some further healthcare-relevant information and guidance, and focuses on risk management systems.
Developing a Commitment to Risk Management and Quality Improvement using EQuIPNational.

Risk management and quality improvement are not isolated processes. They provide a framework for considering everything an organisation does, how it is done, and identifying ways to make it even better – before problems are identified. Many organisations have successfully implemented effective risk management and quality improvement programs where staff are keen to participate and share their experiences. Networking and discussion with peers can help to identify problems and potential solutions to improve outcomes and reduce risk.

For risk management and quality improvement programs to be most effective, the governing body and leadership team must demonstrate commitment to the processes and define their expectations for all stakeholders. In addition, the leadership team should ensure that there are sufficient resources to meet the requirements of the organisation and systems to effectively mitigate, control and manage all risks, and that attention is focused on the core business of the organisation – to care for and treat consumers / patients in a safe and high quality clinical environment.

Implementing the systems and processes that assist an organisation to become a safe and accountable healthcare environment for consumers / patients, staff and healthcare providers requires ongoing attention. Applying EQuIPNational as an organisation-wide quality program provides a means to monitor and manage identified risks and continually improve those systems and processes.

Risk management and quality improvement systems are both directed to providing a structured framework for identification, analysis, treatment / corrective action, monitoring and review of risks, problems and/or opportunities. Communication and consultation with stakeholders are critical for these processes to work effectively.

Continuous improvement and risk management are data driven. They depend on relevant information being provided to the executive, clinicians, managers and the governing body. The data and information provided should reflect the issues that are most significant to the organisation, rather than just for the process of data and information collection itself.

A range of tools that can be used for quality improvement also applies to analysing risk issues. This handbook provides some examples of these tools to assist organisations to implement risk.
management and quality improvement processes and programs. These are not just sets of management tools; although there are numerous tools and skills available to develop and utilise, there are also principles and frameworks for using these tools that are required to ensure effective systems are implemented.

**Incorporating Risk Management and Quality Improvement into Organisational Planning**

Quality improvement and the management of risks in health care should be part of both strategic and operational planning in every area and service of healthcare delivery, clinical and non-clinical. Risk management and quality improvement should be considered as an integrated approach when determining clinical practice, equipment design and procurement, capital development, information technology, contractor management, workplace health and safety, workforce management, and financial planning, and all other areas of operation.

To determine the priorities of risk management and quality improvement, the approach to quality, and the structure of an internal improvement and risk management program, the organisation should identify:

- Its stakeholders
- What its priorities are:
  - What activities has the strategic plan highlighted?
  - How will risk management and improvement activities relate to the strategic goals?
  - What problems have been identified and/or are reported?
  - Are there external requirements that must be achieved?
  - What aspects of care should be targeted?
  - Are there particular clinical areas that need support?
  - What resources are available to make improvements and manage risks?
  - What expertise do staff have in quality improvement and risk management?
  - What are the greatest risks to the organisation?
  - What are the greatest opportunities for the organisation?
  - What are the consequences of those risks or opportunities?
  - What is the likelihood of those risks or opportunities occurring?
- **What approach and structure to take:**
  - How will the governing body be involved?
  - Who will be responsible for and coordinate the activities and programs?
  - How will the organisation involve the staff?
  - How will the organisation communicate its plans for improvement and risk management to stakeholders?
  - How will progress be monitored?
  - How will improvements be monitored?
  - What body / group / committee will monitor progress and/or improvements?
  - What tools should be utilised?

Outcomes from the above questions can be incorporated into the organisation’s strategic and operational plans, which should be linked together. The organisation may choose to develop a separate plan for risk management and quality improvement, but this should also be reflected in the operational and strategic plans.

The specific risk management and quality improvement actions in Standard 1 of the NSQHS Standards focus on the overarching framework that promotes integration of risk management with quality improvement strategies and informs decision making and planning. The risk management and quality improvement actions in Standard 1 are core actions and organisations must obtain a Satisfactorily Met rating in these to gain or maintain accreditation.

The NSQHS Standard 1 risk management item (1.5) and actions (1.5.1 and 1.5.2) require organisations to establish an organisation-wide “system that incorporates identification, assessment, rating, controls and monitoring for patient safety and quality”. The quality improvement item (1.6) and actions (1.6.1 and 1.6.2) require organisations to establish an organisation-wide system “that monitors and reports on the safety and quality of patient care and informs changes in practice”.

Both of these items include the requirement for organisations to regularly monitor an organisation-wide Risk Register and quality management system and to take action to minimise risks to consumer / patient safety and quality of care.

Systems for risk management and quality improvement apply across all of the 15 EQuIPNational Standards, and organisations should monitor their ongoing success through its processes of governance and evaluation.
Section 2

Creating an Improving Organisation

An essential first step when getting started on process improvement is for the governance or leadership team to make it a priority. The importance of process improvement must be communicated from the top. Leaders need to foster an organisational environment in which a process improvement mentality can thrive and staff are using quality-related tools and techniques on a regular basis.

Instilling a process improvement mentality in an organisation can be challenging as it sometimes requires a different way of thinking than staff are usually accustomed to. Process improvement requires thinking to change from ‘fire fighter’ to ‘fire preventer’. The focus is on improving a process in the long term, not just patching up procedures and processes as problems occur. To get started on process improvement, leaders should ensure the culture of the organisation is one of support and encouragement, which provides the necessary resources of people, time and training. In some cases, this may require organisations to review their culture and instigate change management if required.

Organisational Culture and Change Management

The pursuit of managerial excellence has many labels – reform, renewal, modernisation, transformation, realignment – but all are about changing the behaviours that characterise management culture. Organisational culture is fundamental to the organisation achieving effective risk management and quality improvement outcomes.

Culture defines:

- what the organisation is
- what it stands for
- what it considers important
- the way staff are expected to behave and how they relate to one another
- how things are done

...and influences the feelings that people have about the organisation.
Cultural change can be successful only when an organisation has a good understanding of the difference between the culture it currently has, and the culture it is trying to build. Clear and objective measurement is one common feature of successful cultural change.

People within an organisation often do not recognise the culture of that organisation, its values and behaviours. It often takes an external person or entity to identify the culture and assist an organisation to change. This external view can be provided during an onsite survey and in the survey report; ACHS surveyors may assist and support organisational change through feedback.

One view of culture is that it can be likened to an iceberg. Above the water can be seen the behaviours, below the water are the values that support those behaviours. The values are the larger part of the culture. If the only attempts at change are at the behavioural level, without attempting to change the values of the lower half of the iceberg, change will not occur.

How can a culture be changed?
In order to bring about change, managers should recognise, as a minimum:
- the forces creating or driving the need for change
- the right time and environment for change
- any resistance to change.

**Figure 2.1: The iceberg model of culture**

**Forces creating the need for change**
These forces may be external or internal and may be linked, particularly in relation to values and attitudes. New personnel bring different values and attitudes as they enter the organisation and create change from within.
Internal forces: any factor in the internal environment that influences the way the organisation conducts its activities, for example:

- advances in technology; automated equipment may require a complete change in work routines and training requirements
- employee attitudes and behaviour; patterns of decision making, ability to adapt to changing circumstances, morale and motivation
- costs and resource allocation.

External forces: any factor in the external environment that influences the way the organisation or service conducts its activities, for example:

- relevant Acts, legislation, regulations, Australian Standards, codes of practice and industry guidelines
- population demographics including social and community groups, changes in consumer needs
- economic pressures, including unemployment, financial constraints and government involvement
- Competition; increase in alternative services.\(^6\)

The right time and environment for change

Creating acceptance for change requires recognition that change is desirable and feasible and that something is no longer effective.

Effective change management relies on accepting the need for change and setting some achievable goals as the first steps.

Executing change is a systematic effort that requires involvement from those who will be affected by the change, and will assist to gain enough acceptance to make the implementation of change effective. Remember that:

- small changes require minimal planning as they can be handled in a quick and routine manner.
- developing a program of planned change is appropriate when the organisation, or a major portion of it, must prepare for and adapt to change. This program needs to be designed and implemented with a structured and innovative approach.
Resistance to change

Major obstacles to the implementation of new goals, policies or operational strategies could include:

- uncertainty about the cause and effect of change leading staff to avoid change, for example:
  - previous strategies offer consequences and established procedures that are well known and predictable
  - employees are uncertain about their ability to learn new skills or achieve what is required of them
  - lack of trust about changes that are initiated by managers
  - changes that may be recognised as beneficial for the organisation may continue to be resented.
- unwillingness to give up existing benefits, as appropriate change may benefit the organisation but may not benefit the individual or service groups. For some individuals lost power, prestige, salary and quality of work will not be sufficiently offset by the rewards of change.
- lack of awareness of weaknesses. Weaknesses in the proposed changes are sometimes identified by those individuals resisting change, but are not seen by those initiating the change. This form of resistance can prevent change being made for the sake of making change and allow the organisation to maintain stability while change proposals are evaluated.

The change model

No single approach can fit all organisations. Every organisation should have its own model of change corresponding to its needs and issues. When change efforts fail, it can be because of systemic reasons, such as poor vision, inadequate communications, insufficient planning and resources, failure to make a compelling case, and inconsistent messages with leaders not following through. The steps and methods will depend on the organisation and the changes required.

Change models can fall into three types:

- top-down
- transformational leadership
- strategic approaches.
A **top-down** approach can be effective, but only if leaders control the levers of recruitment, promotion, incentives and dismissal - and at the same time pay attention to the people factor and are open to feedback. New behaviour will eventually be accepted and become the culture.

With **transformational leadership**, culture change comes through changing the way things are done in an organisation so that, over time, people will change as well.

The **strategic approach** holds that if you change how individuals feel and provide them with new experiences, they will eventually adopt the new behaviours, leading to the emergence of a new culture.

One longstanding model suggests that to change a culture takes three broad steps, unfreezing the culture, changing the culture and refreezing the culture.7

![Figure 2.2 The change model](image)

**Unfreezing** involves making the need for change so obvious that individuals or an organisation can see and accept it. Unfreezing may be accompanied by introducing new information and decreasing the strength of previous, inappropriate values or demonstrating their lack of effectiveness.

**Changing** involves the change agent, in partnership with the organisational members, creating situations in which new values, attitudes and behaviours are acquired by the organisation.

**Refreezing** requires the new behaviour to be locked into place with supporting mechanisms. The individual, the group or the organisation experiences the benefits of the new behaviour or structure. Reinforcement is a vital component of refreezing. Effective performance should be recognised and promoted as the 'new norm'.
There are many processes and methods that can be utilised in these three broad steps. As with other quality improvement processes, an organisation can use the quality cycle for the change process, see Figure 4.3 or refer to Figure 2.3, which presents a roadmap for changing management culture.

Figure 2.3 A roadmap for changing culture

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Team building

Risk management and quality improvement are often achieved through team activity. There is no one best approach for developing and implementing a work team. The team should complement the vision and goals of the organisation.9

In a team-oriented environment, everyone contributes to the overall success of the organisation. Even though individual staff have a specific job function and belong to a specific department, they are unified with other staff members to accomplish the overall objectives. The bigger picture drives their actions and their function exists to serve the bigger picture.

A team approach can help facilitate:
- achievement of quality improvement targets
- provision of quality service
- organisation-wide knowledge
- collaboration in work practices
- transparency in communication
- the achievement of desired outcomes and continuous quality improvement within the organisation.

A team is a group of people working together towards a common goal. Characteristics of an effective team include:
- having members who share a common purpose and goals and are multi-skilled
- flexible management
- managers who are facilitators and not just supervisors
- the capacity to make decisions which are coordinated and based on expertise and best practice.

‘Team building’ is the process of enabling a group of people to reach their goal. Items that may assist organisations during the development and implementation of teams include:
- make time and allow personal space for innovation
- recognise achievements and reward appropriately
- use measurement systems and information management systems that are aligned with the goals of the team
- recognise team leaders and encourage constructive interactive behaviour
- encourage consensus to build ownership of the team’s actions and productivity.
Summary
Risk management and quality improvement are organisation-wide processes. They are aligned in their focus on identifying potential problems and implementing corrective strategies. Integrating the two programs can increase an organisation’s ability to minimise errors, enhance efficiency and improve care and services. Figure 2.4 provides a view of how the two systems relate to each other.

In order to have an integrated organisation-wide risk management and quality improvement system, all staff need to work as a team. No matter how talented individuals on a staff may be, unless they can function together efficiently and with excellence, the organisation will not achieve the level of performance it has planned.

The integrated risk management and quality improvement framework should be documented in a plan that is provided to all staff members. The plan should:
- outline the specific roles of the two systems
- explain how the two systems work together
- address problem identification, process monitoring and analysis
- explain implementation of changed processes
- address evaluation of improvements.

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Figure 2.4 Functions of a risk management and quality improvement program.

The following chapters provide information on risk management and quality improvement, and outline some strategies for identifying areas for improvement and evaluating the changes implemented.
Section 3

Risk Management Essentials

All activities of any organisation involve risk that must be managed. This is particularly true of healthcare organisations, where in addition to the degree of risk inherent to the provision of care, there is community expectation of safety. ACHS requires that a register of organisational risks be made available to surveyors at any onsite surveys; organisations may also chose to submit their Risk Register to ACHS with their self-assessment. As previously noted, NSQHS Standards 3 -10 require risk assessments of systems such as infection control and medication management, and the associated governance committees would be expected to manage these. Further information on using a risk management approach to meet the NSQHS Standards is available on the Australian Commission on Safety and Quality in Health Care’s (ACSQHC’s) website: www.safetyandquality.gov.au

The goal of risk management in health care is to:
1. minimise the likelihood of possible events that have negative consequences for consumers / patients, staff and the organisation
2. minimise the risk of death, injury and/or disease for consumers / patients, employees and others as a result of services provided
3. enhance consumer / patient outcomes
4. manage resources effectively
5. support legislative compliance and to ensure organisational viability and development.

Risk management links to all Standards and criteria within the EQuIP National framework as risks to the organisation can arise in both corporate and clinical services. Many of the Standards are explicit about the management of risk, such as Standard 3, pertaining to healthcare associated infection risks, and Standard 4, pertaining to medication safety risks.

Risk Management System Requirements

A systems approach to implementing risk management should ensure that risk management is an integral part of all decision making by providing a framework to assess and prioritise risks for existing services as well as service planning. A system for embedding the risk management process is required.
This risk management process, described in AS/NZS ISO 31000:2009 *Risk management — Principles and guidelines* (Figure 3.1), provides a generic framework for assessing, treating and prioritising risks and opportunities for organisations. For risk management to be effective, this process should be applied within the context of the organisation as a whole, as the types of risk issues, their consequences and organisational tolerance for risk vary. Context helps to define the imperatives for, and constraints on, effective risk management within the organisation.

**Figure 3.1 Risk management process overview**

![Risk management process overview](image)

The core business for all health service providers is delivery of safe and effective consumer/patient care. The risk management program should be relevant to the clinical services provided to ensure safe, quality care and services. For example, the risks associated with obstetric services are different from those in aged care services; hence risk management strategies would vary accordingly.
The role and context relevant to the organisation should be documented with consideration given to:

- the mission and values of the organisation
- its community
- the organisational services
- its location, for example rural facilities may have different risk issues from metropolitan facilities
- the funding model, such as public, private, for profit or not-for-profit
- jurisdictional requirements
- physical infrastructure, whether it is a new facility, leased premises or heritage-listed building
- clinical and non-clinical services provided
- service delivery models
- the governance structure for the organisation
- relevant stakeholders.

The organisation’s risk management framework should define the organisation’s risk management language, tolerances, tools to be used, communication and escalation requirements and reporting processes, and should be defined as part of establishing the context.

The risk management policy should identify:

- **Who:** is required to report, communicate, action
- **What:** is required to be reported by staff, managers, executives, governance committees
- **When:** risks are to be reported and when information is to be disseminated to the clinicians, staff, executive and governance committees / governing body
- **Where:** information is stored, communicated
- **How:** tools and processes are to be used – e.g. risk assessments, risk registers and when a risk may be removed from the current risk register.

The governing body should endorse the risk management policy and establish clear requirements for what type of risk issues and level of risk should be communicated. Linking documents to assist with defining the context for an organisation could include service agreements, strategic plans, business plans, quality improvement plans, organisational charts, organisational committee structures, roles and responsibilities, policies and procedures, and risk-specific management programs.
Risk-specific management programs such as Clinical Risk Management, Workplace Health & Safety or Human Resources should be developed to address the organisation’s identified risks in a manner consistent with, and contributing to, the integrated Risk Management Policy.

Risk-specific assessments are required for NSQHS Standards 3 -10 and these should also feed into the main risk system

**Responsibilities and Accountabilities**

Responsibilities and accountabilities for risk management should be formally defined for the overarching risk management program, for risk-specific programs, and for the identification, analysing and reporting of risk issues. The governing body should define the communication and escalation requirements for risk information in accordance with good governance standards. As described by Neil in the Institute for Healthcare Improvement’s *Boards on Board*¹⁰, “Leaders are responsible for everything in the organisation, especially everything that goes wrong.” The
governing body and leaders should ensure that “at the same time as concentrating on strategic and important matters, [they] also need to be certain that all risks are effectively controlled and managed and attention is focused on the core business of the organisation – to care for and treat patients”.11

Accountabilities and responsibilities should be defined for all stakeholders including the governing body, managers, employees, clinicians, contractors and service providers. Responsibilities for key risk categories should also be assigned – for example infection control, quality improvement or work health and safety (WHS).

Roles and responsibilities within organisations and how they will be managed will depend on the role, size and complexity of the organisation. For example, large organisations may have a dedicated Risk Manager role to oversee the risk management system, while smaller organisations may incorporate responsibilities into existing roles.

Risk management responsibilities should be integrated into credentialling requirements, position descriptions, service level agreements, contracts and agreements and terms of reference for committees.

**Risk Management Resources**

Resources should be allocated to manage risk issues appropriate to the size and scope of the organisation and the consequences of failure to manage the risk. Resources may include financial resources, human resources and physical resources such as building design and equipment.

Measures to engage stakeholders should be implemented, for example through strategic planning. Communication and consultation with stakeholders, both internal and external, are integral to the establishment of a risk management culture and the effective management of risk. Different individuals and stakeholder groups will have different perceptions about a risk and its potential impact, so it is necessary to ensure that this is recognised and taken into consideration when decisions and action plans are made.

The organisation’s key stakeholders should be identified and appropriate mechanisms for communication with them established. Key stakeholders must include decision makers, employees, managers, clinicians, contractors, volunteers, regulators, consumers / patients and
their families / carers. As a component of establishing the context of the organisation and for analysing individual risk issues, identifying the appropriate communication structures should be undertaken. This process should be supported by a communication plan that addresses the confidential sharing of information related to the risk itself and the process for its management.

Avenues for communication and consultation should be determined according to the scope of services provided, the type of information to be disseminated (or being sought), and the size of the organisation. Mechanisms for communicating risk information may include existing committees or forums within the organisation or dedicated risk management committees. For example, in a large organisation the Medical Advisory Committee, Audit Committee, Work Health and Safety Committee, Clinical Risk Management Committee, Drug and Therapeutics Committee (or equivalent), Infection Prevention and Control Committee, Quality Committee and Executive Committee could be used to disseminate risk information. In a small organisation, where there is a limited number of personnel, this may be conducted through a single committee or role.

Adequate information to assist with assessing and appropriately treating the risk is required and may involve data collection, literature review, historical records and risk relevant expertise. Engaging key stakeholders who bring relevant skills and expertise to assessing risks is critical to ensure comprehensive analysis of the risk related issues.

Risk relevant data should be gathered and used proactively and reactively. The risk analysis process can be undertaken using qualitative or quantitative analysis methodology. The possible impact of risks can affect one or several of the aspects of business operation and organisations should consider clinical, WHS, human resources, information technology, finances, business practices, the environment and intangibles such as reputation, loss of community confidence and incongruence with mission and values.

Training is required to ensure that risk management is part of an organisation’s culture. For risk management systems to be effective, employees, managers, clinicians and service providers should understand the system for identifying and reporting risk issues and the tools to be used within the organisation.

Evaluation of the effectiveness of training should be undertaken and documented to assess whether employees, managers, accredited practitioners and service providers understand and use the risk management systems.
Risk Management Processes and Strategies

Examples of processes and strategies that assist with risk identification and management include:

**Clinical examples**

- collection and effective use of clinical indicators
- morbidity and mortality reviews
- clinical audits
- adverse outcome screening and clinical incident reporting
- health record audits and clinical content reviews
- medical emergency reviews
- medication management strategies
- consumer / patient risk assessments (e.g. falls, pressure areas, VTE)
- peer review and peer supervision
- effective use of complaints and feedback from consumers / patients and staff
- evidence, literature, research.

**Non-clinical examples**

- collection and effective use of indicators relevant to the organisation
- audit processes
- budget variance monitoring
- project activity reports
- purchasing and product evaluation
- fraud minimisation schemes
- WHS risk assessments and hazard identification
- lost time injury reports
- political change management strategies
- workplace safety strategies
- financial management strategies
- contingency and disaster planning
- redundancy in systems
- information technology and data entry system infrastructure and capabilities
- workforce planning
- credentialling and defining the scope of clinical practice for all clinicians
• recruitment and retention strategies
• education and mandatory training programs for staff
• staff performance review and development
• equipment maintenance and replacement schedules
• external contract reviews.

Risks should be considered using existing processes such as audits, data, trends, literature and risk assessment tools, as well as via planned reviews of issues with stakeholders through mechanisms such as brainstorming sessions. Tools used to screen and/or assess risks will vary depending on the risk being assessed. For example, consumer / patient risk screening and/or assessments such as falls risk or mobility assessment tools will be different from tools used to assess risks to achievement of strategic goals, or workplace safety risks. It is important that any tool used is validated by an expert internal source and/or agreed for use by the governing body.

While the tools used may vary, the language, responsibilities and escalation requirements associated with an identified risk should be integrated into the organisation-wide process for analysis and management of risk issues within an overall risk management framework.

A consequence and likelihood table is provided in Figure 3.3, Table 3. The tables in Figure 3.3 are provided as examples only, for an organisation-wide framework.

Each organisation should define the consequences of risk according to their context and risk tolerance. For example, catastrophic for some organisations may be $30 million dollars, while for others this may be $30,000. The governing body and relevant stakeholders should be engaged in determining the consequence and likelihood of identified risks.

Very few risks have only a single consequence or impact on an organisation and the range of consequences from risks should be considered. For example, a fall can have consequences for a patient that range from no harm to additional surgical procedures and in a worst case scenario, death. Patient falls also have a financial consequence for an organisation through increased care requirements, additional procedures and increased length of stay. In addition, employees may be exposed to increased risk of injury through trying to prevent a fall or retrieving a patient from the floor following a fall.
Figure 3.3 Example of a risk matrix, showing risk definition and classification\(^1\)
Based on AS/NZS ISO 31000:2009

Table 1. Qualitative measures of likelihood.

<table>
<thead>
<tr>
<th>Level</th>
<th>Descriptor</th>
<th>Example Detail Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Almost certain</td>
<td>Is expected to occur in most circumstances (e.g. most weeks or months)</td>
</tr>
<tr>
<td>B</td>
<td>Likely</td>
<td>Will probably occur in most circumstances (several times a year)</td>
</tr>
<tr>
<td>C</td>
<td>Possible</td>
<td>Might occur at some time (every 1 to 2 years)</td>
</tr>
<tr>
<td>D</td>
<td>Unlikely</td>
<td>Could occur at some time (possibly in the next 2 to 5 years)</td>
</tr>
<tr>
<td>E</td>
<td>Rare</td>
<td>May occur only in exceptional circumstances (perhaps every 5 to 30 years)</td>
</tr>
</tbody>
</table>

Table 2 Qualitative risk analysis matrix – level of risk

<table>
<thead>
<tr>
<th>Level</th>
<th>Descriptor</th>
<th>Example Detail Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extreme</td>
<td>Death, toxic release off-site with detrimental effect, huge financial loss (&gt; $500,000)</td>
</tr>
<tr>
<td>2</td>
<td>High</td>
<td>Extensive injuries, loss of production capability, off-site release with no detrimental effects, major financial loss ($30,000-$500,000)</td>
</tr>
<tr>
<td>3</td>
<td>Moderate</td>
<td>Medical treatment required, on-site release contained with outside assistance, high financial loss ($1001-$30,000)</td>
</tr>
<tr>
<td>4</td>
<td>Low</td>
<td>First aid treatment, on-site release contained, medium financial loss ($101-$1000)</td>
</tr>
<tr>
<td>5</td>
<td>Minimum</td>
<td>No injuries, low financial loss (e.g. &lt; $100)</td>
</tr>
</tbody>
</table>

Table 3 Consequence and likelihood

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extreme 1</td>
</tr>
<tr>
<td>A (almost certain)</td>
<td>E</td>
</tr>
<tr>
<td>B (likely)</td>
<td>E</td>
</tr>
<tr>
<td>C (possible)</td>
<td>E</td>
</tr>
<tr>
<td>D (unlikely)</td>
<td>E</td>
</tr>
<tr>
<td>E (rare)</td>
<td>H</td>
</tr>
</tbody>
</table>

**Note:** The number of categories should reflect the needs and nature of the organisation and activity under study.

**Legend:**

- **E:** extreme risk; immediate action required
- **H:** high risk; senior management needed
- **M:** moderate risk; management responsibility must be specified
- **L:** low risk; manage by routine procedures
The Risk Register

Risk registers are a tool that can be used to assist prioritisation of risks and appropriate allocation of resources. Risk registers should be more than just a list of risks to provide to ACHS surveyors; they are dynamic documents that should support decision making and communication in key committees / forums. Risk issues should be considered during a planned review and in response to incidents and factors identified through day to day activities. The EQuIPNational Standards do not specify whether there should one overarching risk register for the organisation or one for each department or service. Both models exist and it is an organisation’s choice as to how risk is managed. If there is a tiered approach to risk registers at both organisational and department / service level, the registers must be kept up to date and reviewed regularly according to the individual risk rating. There must be clearly defined mechanisms to escalate a high risk from a department / service Risk Register to the organisational Risk Register for Executive attention.

The organisational Risk Register must be available for surveyors at survey. ACHS recognises that there may be some sensitivity to information on a risk register and this is treated as confidential in the same way that all other organisational information is confidential.

There is no standard list of components that should be included in the risk register. Some of the most widely used components are:

- Dates: as the register is a living document, it is important to record the date that risks are identified or modified. Optional dates to include are the target and completion dates.
- Description of the risk: a phrase that describes the risk
- Risk type or area: classification of the risk: It should be noted what area of the organisation the risk relates to, for example, a business risk, clinical risk or a risk to the buildings.
- Likelihood of occurrence: provides an assessment on how likely it is that this risk will occur. The Risk Matrix (Figure 3.3) provides information on how to complete this section.
- Severity of effect: provides an assessment of the impact that the occurrence of this risk would have on the project / organisation.
- Countermeasures: actions to be taken to prevent, reduce, or transfer the risk. This may include production of contingency plans.
- Responsibility / owner: the individual responsible for ensuring that risks are appropriately engaged with countermeasures undertaken.
- Status: indicates whether this is a current risk or if risk can no longer arise and impact the project. Example classifications are: C-current or E-ended.
Other columns such as quantitative value can also be added if appropriate.

The following table offers an example of a risk register, and is provided as an example only. Organisations should develop a risk register to suit their individual purposes.

**Figure 3.4 Example of a risk register**

<table>
<thead>
<tr>
<th>No</th>
<th>Risk area</th>
<th>Risk description</th>
<th>Action</th>
<th>Severity</th>
<th>Probability</th>
<th>Risk Rating</th>
<th>Eliminate, reduce or tolerate</th>
<th>Start date</th>
<th>Due date</th>
<th>Cost</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**KEY**

- **Number (No)**: A unique reference number for each risk identified
- **Risk Area**: How or where the risk was identified
- **Risk Description**: A description of the risk and its possible impact upon the organisation / people
- **Action**: The action required to manage the task
- **Severity**: The degree to which interests of the organisation / people would be harmed by the realisation of the risk
- **Probability**: The probability of the realisation of the risk
- **Risk Rating**: Severity x probability gives the ‘risk rating’ and allows prioritisation
- **Eliminate, reduce or tolerate**: Decision on the management of the identified risk
- **Start date / Due date / Cost**: To be regularly reviewed
- **Responsibility**: The individual who has overall responsibility for the management of the risk
**Treatment plans** may include existing strategies for specific risks such as manual handling programs, falls management programs, or infection prevention strategies, as well as dedicated plans for identified risk issues following assessment.

**Figure 3.5 Example of a treatment plan**

<table>
<thead>
<tr>
<th>No</th>
<th>Risk description</th>
<th>Risk rating before treatment</th>
<th>Eliminate / reduce / tolerate</th>
<th>Risk rating after treatment</th>
<th>Decision made by</th>
<th>Date decision made</th>
<th>Responsibility</th>
<th>Date completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>H</td>
<td>Reduce</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The risk treatment plan will enable the initial risk rating to be altered to reflect the results of the management of the risk. The purpose of this is to demonstrate that risk treatments are reducing risk, and hence that risk management systems are effective.

A range of tools that can be used to assist with the identification and assessment of risks within an organisation is included in Section 5 of this Handbook, as many of the tools can be applied to both risk management and quality improvement.

Other examples of references and tools that can assist in managing specific risks include:

- *Stop the Clot* – National Institute of Clinical Studies (NICS)
- *Move your Dot* – Institute for Health Improvement (IHI)
- *Better Practice Falls Prevention* – the Australian Commission on Safety and Quality in Health Care.
- *The WHO surgical safety checklist and implementation manual* – World Health Organisation
- *The Australia and New Zealand edition of the surgical safety checklist* – Royal Australian College of Surgeons (RACS)

Tools to support consistent communication of risk issues should be implemented, such as a risk assessment reporting tool to ensure corporate and clinical risks are captured.

No single tool will identify all risks within an organisation and a range of approaches should be implemented. The focus should be to create a culture where all issues are raised in a safe manner to support analysis of issues, as well as improved clinical care and service delivery outcomes.
Review and monitoring mechanisms are integral to the process of risk management. Risk issues require ongoing review and monitoring, as does the effectiveness of treatment plans and the management systems in place. The methods and/or timeframes used to monitor and review the effectiveness of actions taken should be established as part of applying the risk management process.

Outcomes of the action plan should be progressively monitored and reviewed for effectiveness by analysing the risk considering the additional controls in place. Such reviews could occur as part of existing management processes, such as management meetings, incident and risk assessment reports, audit results both internal and external, and performance indicator reviews, or as separate planned activities. Guidance regarding when risks may be removed from the current risk register and returned to management by routine procedures should be included.

The documentation should also identify whether changes in practice and/or policy resulted following analysis, management, monitoring risk and follow-up action.

Summary

In summary, effective risk management systems can best be achieved in an atmosphere of trust. Successful risk management provides assurance that the organisation’s objectives will be achieved within an acceptable degree of residual risk. It also creates an environment in which quality improvement occurs as the natural consequence of the identification, assessment and elimination or minimisation of risk. Risk management can therefore also be considered as an aspect of the organisation’s ongoing continuous quality improvement program.
Section 4

Quality Improvement

Quality Cycle

Organisations should select a systematic methodology to progress through the stages of quality improvement. Many such methods have been developed, but perhaps the most well known is that of Shewhart, who developed the PDSA cycle, and Deming’s PDCA cycle. PDSA is shown in Figure 4.1. The cycle is continuous and can be entered at any point.

Figure 4.1 Plan, do, study, act

Step 1: Plan
Plan what you are going to do, after you have gathered some evidence of the nature and size of the problem:

- State the objective of the test.
- Make predictions about what will happen and why.
- Develop a plan to test the change. (Who? What? When? Where? What data should be collected?)

Step 2: Do
Do it, preferably on a small scale first:

- Carry out the test.
- Document problems and unexpected observations.
- Begin analysis of the data.
Step 3: Study
Study the results. Did the plan work?
- Complete the analysis of the data.
- Compare the data to your predictions.
- Summarise and reflect on what was learned.

Step 4: Act
Act on the results. If the plan was successful, standardise this new way of working. If it wasn’t, try something else:
- Determine what modifications should be made.
- Prepare a plan for the next test.

The quality cycle was refined in 1991 by an ACHS working party. This version, shown in Figure 4.2, emphasises the concept of feedback at all phases of the cycle. This quality cycle can be used for every quality activity / initiative / project that is undertaken to help ensure that the best possible results are achieved. The underlying principle of the cycle is that an activity is not complete until evaluation shows that it has been effective and reached the set or desired goal / outcome.

![Figure 4.2 Quality cycle refined by ACHS working party](image)

Step 1: Monitoring
It is not really possible to know whether the best possible care or service is being provided if there is no information about that care or service. It is therefore an essential part of a continuous improvement program to collect data on different aspects of the care and services being provided. Monitoring allows identification of the aspects of any problem, gathers data for analysis, or establishes a baseline. Monitoring can be undertaken through surveys, audits, observations, record reviews, extracting data from databases, etc.
Step 2: Assessment
An assessment of the current situation should be made by analysing the data from the monitoring phase of the cycle. The analytical quality tools shown in this section of the handbook can be utilised in this phase. Data presentations, identifying best practice, group discussions and obtaining quotes for external resources help determine actions to be taken in the next phase.

Step 3: Action
Suitable, practical solutions for system improvement take into consideration the needs of the consumer / patient and of the staff working in the areas involved, as well as the needs of the service and organisation. Actions should be prioritised and then taken according to the assessment decisions.

Step 4: Evaluation
The quality activity does not finish once an action is taken. To ensure the required result is achieved an organisation should ask itself:

- Did the action achieve the desired result / outcome?
- Is the improvement sustainable over time?
- Is there any more that can be done for this activity / initiative / project? Is it complete?
- Are the best possible care and services being provided?
- Are staff aware of any resulting changes?

Monitoring that was undertaken in the first phase can be repeated and results compared.

Feedback: It is essential that all individuals involved in the review activities are aware of the results and the effect of the evaluation, and are informed of any subsequent changes introduced into the organisation. Communication between staff at all phases of the cycle is a critical factor in facilitating a continued drive for excellence in consumer / patient care delivery.

Such information fed back to the individuals responsible for the activities can be instrumental in facilitating organisational change. The end result of such feedback systems is that interest in the quality improvement program may be stimulated at a grass roots level, and it is likely that the task of assessing the quality care will become more professionally and intellectually rewarding for all concerned.

The cycle should be repeated until the desired result is achieved and/or maintained.

A documented activity planner and maturity rating scale may be considered to measure and review actions and outcomes and to evaluate the quality improvement system on a regular basis.
Quality Improvement Essentials

Quality improvement is fundamental for all healthcare organisations. A Quality Improvement Plan is required at each phase of the EQuiPNational cycle, and should be submitted to ACHS with pre-survey documents, such as the organisation’s self-assessment at Phases 1 and 3, and be available for surveyors to review during the onsite survey at Phases 2 and 4.

Quality Improvement Program

There are some basic essentials that any quality improvement program should contain but the size, type, complexity and location of the organisation will influence the activities that are undertaken. An organisation should identify principles required for a quality improvement program, determine its priorities for improvement and develop a program accordingly.

For quality improvement to be successful, suggested principles are that it should be:
- planned and systematic
- based on reliable evidence and accurate analysis
- carried out with effective teamwork and communication
- applied throughout the organisation.

Quality Improvement Plan

When developing the Quality Improvement Plan, organisations need to consider that a key factor of quality improvement is that everyone involved should perceive a need to find better ways of meeting the needs of consumers / patients and the organisation. Successful implementation of quality improvement will be assisted by:
- an approach that is appropriate for the organisation and is consistently applied organisation wide
- a total organisational commitment to continuously improving the quality of care and service provided
- an ongoing, comprehensive, multidisciplinary assessment system that engenders continuous improvement
- an education program that enables staff at all levels to develop an understanding relevant to their level of responsibility and their active participation in the process.

The Quality Improvement Plan should outline what areas require improvement, how the need was identified, how the organisation intends to carry out those improvements, the timeframes and designated responsibilities, reporting arrangements including responsibilities for this, and the evaluation processes including the expected outcomes / improvements.
As with the Risk Register, organisations may choose to take a tiered approach to quality improvement planning, by developing one overarching plan for the organisation or one for each department or service. If there is a tiered approach to quality improvement planning at both organisational and department / service level, the plans must be kept up to date and reviewed regularly.

**Requirements for a Quality Improvement Plan**

In conjunction with the ACSQHC, the following main considerations for a quality improvement plan have been identified:

1. Identify the areas that require improvement:
   - what is the objective
   - how it is to be improved, i.e. goal / KPI (determine the baseline data against which an improvement will be measured)
   - how will this be achieved
   - how will you know if it is successful (measured against baseline data)
   - the timeframe
   - who is accountable

2. Implement the strategies / changes in the organisation

3. Data collected and analysed against the baseline and evaluate the changes in the systems

4. Note if the objective has been completed or evaluated.

The organisational Quality Improvement Plan is required to be submitted to ACHS at each phase of the accreditation cycle. Figure 4.3 provides an example of the suggested ACSQHC’s requirements for this, and was developed in conjunction with the ACSQHC. This example does not include an area for describing how the changes were implemented, or what education has been provided, etc. Information such as this should be kept for the organisation’s information and for future reference when planning other quality activities; however, it is not required in the Quality Improvement Plan that is submitted for accreditation purposes. Further, organisations may find it beneficial to link any issues with the EQuiPNational Standards, and particularly to the 10 NSQHS Standards.

The table in Figure 4.3 provides an explanation of each heading in the Quality Improvement Plan, as well as some examples of the amount of information required for each quality improvement activity.
<table>
<thead>
<tr>
<th>Objective</th>
<th>Goal / KPI</th>
<th>Source</th>
<th>Priority (based on risk) (L/M/H)</th>
<th>How will we achieve this outcome?</th>
<th>Measure of success</th>
<th>Timeline</th>
<th>Accountable person(s)</th>
<th>Completed or evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>State what the organisation wants to achieve and why.</td>
<td>Determine the baseline data against which the improvement will be measured. For example, an improvement in compliance, updated protocols, etc.</td>
<td>State how the issue was identified, for example via an audit, GAP analysis, survey report, incident, complaint, etc.</td>
<td>Prioritise the improvement according to the risk rating of the issue; whether it is a Low, Medium or High risk.</td>
<td>Describe the actions the organisation will take to improve the issue / process identified; for example, modification of specific protocols or processes, provision of training, etc.</td>
<td>Define the measure against the baseline data that identifies if the improvement was a success. For example, an increase in compliance rates, or an evaluation of the completed protocols, etc.</td>
<td>Document the date of expected completion.</td>
<td>Identify the position of the person responsible for designing, implementing, measuring and evaluating the improvement.</td>
<td>Note if the objective has been completed or evaluated.</td>
</tr>
</tbody>
</table>

### Examples

<table>
<thead>
<tr>
<th>Priority (based on risk) (L/M/H)</th>
<th>Timeline</th>
<th>Accountable person(s)</th>
<th>Completed or evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>30th June 2013</td>
<td>Infection Prevention and Control Executive / governance person.</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>30th June 2013</td>
<td>Ward manager and hand hygiene coordinator.</td>
<td>Compare hand hygiene audit results to show trends in each audit area.</td>
</tr>
</tbody>
</table>

**Figure 4.3 Example of the minimum requirements a Quality Improvement Plan**

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Setting the Bar Higher

Literature and research on high performing health services shows that organisations that have a shared organisational understanding of the purpose of their quality system, and take a strategic approach to achieving it, achieve better consumer experiences and outcomes. A strategic quality plan is focused on creating a high quality experience for every consumer, every time. As with any strategic priority, this requires a clear definition of what is to be achieved – in this case, clearly defining ‘high quality consumer experience’ – and setting out an organisational roadmap for achieving it, including the goals, priorities, strategies, roles, monitoring and evaluation systems that must come together in an integrated plan, to achieve the high quality consumer experience at point of care.

There are three essential ingredients to support successful risk management and quality improvement:

- a shared desire to improve services and care delivery
- consultation with all relevant stakeholders to secure buy-in
- governance support and the provision of resources to effectively apply changes and sustain improvements at the department / unit / ward and across the organisation.

Leadership support is crucial for an organisation to achieve effective quality improvement. The governing body must ensure that there are adequate resources provided, that quality improvement training has occurred, that there is sufficient time available to plan and implement any changes to systems, and that the culture of the organisation is one where change for improvement is embraced.

To create and implement an optimum quality improvement process, all stakeholders must be clear about the overall organisation-wide objectives. This can be achieved with the development and communication of a clear strategic quality framework.

The example shown in Figure 4.4 has been sourced from Balding, C (2013) Create a Great Quality System In Six Months⁹, and is reproduced here with the permission of the author.
Figure 4.4 Framework for a strategic quality plan

**Example of the structure and content of a strategic, organisation-wide Quality Plan for creating a quality experience for every consumer** *(Balding, 2013)*

Vision, goals and objectives for the quality consumer experience we want to create for every person, every time, e.g.:

At the Extraordinary Health Service, our vision for the quality of care and services is that each of our consumers has a great experience with us, every time. This links to our strategic plan and means that we work together and in partnership with our consumers to achieve the following goals for every consumer:

- No harm
- Responsiveness to individual needs
- The right care and services with the best possible outcomes
- A smooth journey, with no surprises.

**Key priorities for Year One expressed as measurable objectives for each goal:**

- Key components of each goal expressed as objectives
- How good do we want to be as an organisation for each of these objectives? (Targets for processes and outcomes)
- By when?
- How will we know if we’re making progress towards our goals and objectives?
- What process and outcomes measures will we need to collect and what subjective and qualitative information will we use?

**Key implementation strategies for each objective:** How will we make this happen across the organisation?

- What are the specific leadership and accountability roles - committees and individuals - in achieving the objectives?
- Which organisation-wide strategies will we use to achieve the objectives?
- How will they be implemented?
- Which governance supports will we provide for staff to do this?
- Which national, jurisdictional, corporate or professional requirements can help us achieve the objectives?
- Which services need to work with which to achieve the objectives?
- How do individual departments and services translate and contribute to the organisation-wide plan locally?
- How will all the improvement work from around the organisation be coordinated?

**Accountability, Monitoring and Reporting:**

- What is the structure and process for monitoring, reporting and responding to progress?
- How will the improvement work from around the organisation on this objective be collated to identify and report progress?

**Annual evaluation of the plan:**

- Are our strategies helping us to achieve our objectives?
- Are we achieving the consumer experience we set out to create?
- How are our consumers better off as a result of our quality plan and system?
Identifying Areas Requiring Improvement

The following information outlines some ways that areas requiring improvement may be identified:

**Sentinel events, adverse events and root cause analysis**

The occurrence of sentinel and adverse events within the healthcare system has serious implications for all those involved, including the consumer/patient, the family and/or carer(s), staff and the healthcare organisation itself. When a sentinel or adverse event has occurred, it is essential that healthcare organisations have in place an integrated critical incident management approach which will develop, implement and review risk management and quality improvement strategies through monitoring, analysis and appropriate management protocols.

A sentinel event can be defined as:

> “an unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof. Serious injury specifically includes loss of limb or function”.\(^{16}\)

Whereas an adverse event is defined as:

> “an incident in which unintended harm resulted to a person receiving health care”.\(^{16}\)

The agreed national list of core sentinel events consists of:

- procedures involving the wrong patient or body part
- suicide of a patient in an inpatient unit
- retained instruments or other material after surgery requiring re-operation or further surgical procedure
- intravascular gas embolism resulting in death or neurological damage
- haemolytic blood transfusion reaction resulting from ABO incompatibility
- medication error leading to the death of a patient reasonably believed to be due to incorrect administration of drugs
- maternal death or serious morbidity associated with labour or delivery
- infant discharged to the wrong family.
The causes of sentinel events are twofold: they are human errors and/or systems errors.

The main causes of adverse events relate to operative errors, drugs, medical procedures, and diagnosis, and each of these is amenable to prevention.\textsuperscript{17}

In the monitoring and analysis of sentinel events, organisations can undertake a root cause analysis and then develop an action plan, thereby implementing improvements to reduce risk and monitor the effectiveness of those improvements.

Figure 4.5 outlines a basic framework for a root cause analysis. Each question area shown in Figure 4.5 should be addressed and the findings used to determine whether action is required.

It is useful to answer each question in terms of whether it is a ‘root cause’ or not. A ‘root cause’ is defined as a finding related to a process or system that has the potential for redesign to reduce risk. If a particular finding is not a ‘root cause’, then it should be addressed later in the analysis with a ‘why?’ question. Each finding that is identified as a ‘root cause’ should be considered for an action and addressed in an action plan.\textsuperscript{18}

After a root cause analysis is completed an action plan can be formulated. An action plan is defined as:

\textit{“The product of the root cause analysis which identifies the strategies that an organisation intends to implement to reduce the risk of similar events occurring in the future. The plan should address responsibility for implementation, oversight, pilot testing as appropriate, time lines, and strategies for measuring the effectiveness of the actions.”}\textsuperscript{18}

The action plan identifies changes that can be implemented to reduce risk, or formulates a rationale for not undertaking such changes.

Sentinel event management links closely with an organisation’s risk management program.
Figure 4.5 Root cause analysis framework

What happened?
Identify the sentinel event that has occurred.

- What are the details of the event?
- When did the event occur?
- What area / service was affected?

Why did it happen?
What were the most proximate factors?

- What steps were involved in the event?
- Human factors: What human factors were relevant to the outcome?
- Equipment factors: How did the equipment performance affect the outcome?
- Controllable environmental factors: What factors directly affected the outcome?
- Uncontrollable external factors: Are they truly beyond the organisation’s control?
- Other: Are there any other factors that have directly influenced this outcome? What other areas or services are impacted?

Why did that happen?
What systems and processes underlie those proximate factors?

- Human resource issues:
  - To what degree are staff properly qualified / competent for their responsibilities?
  - How did actual staffing levels compare with ideal levels?
- Information management issues:
  - To what degree is all necessary information available when needed, accurate, complete, and unambiguous?
  - To what degree is communication among participants adequate?
- Environmental management issues:
  - To what degree was the physical environment appropriate for the processes being carried out?
  - What systems are in place to identify environmental risks?
  - What emergency and failure-mode responses have been planned and tested?
- Leadership issues:
  - To what degree is the corporate culture conducive to risk identification and reduction?
  - What are the barriers to communication of potential risk factors?
  - To what degree is the prevention of adverse outcomes communicated as a high priority?
- Uncontrollable factors:
  - What can be done to protect against the effects of these uncontrollable factors?

Formulate Action Plan
Incident monitoring

An incident is an event or circumstance which could have resulted, or did result, in unintended or unnecessary harm to a person and/or a complaint, loss or damage.\textsuperscript{19} Incident monitoring, a system for identifying, processing, analysing and reporting incidents, can be used to put preventive strategies in place.

An incident monitoring system includes:

- confidentiality of reported data
- involvement of all staff
- a just culture
- education of all staff
- mechanisms to minimise staff fear of reprisal
- user-friendly reporting forms that capture detailed contextual information
- investigation of all incidents by relevant staff and managers
- communicating lessons learnt
- trending of incidents and learning from the information
- benchmarking information and systems with other organisations
- taking action to prevent recurrence and developing ways to prevent adverse events
- linkage with the organisation’s risk management system
- evaluation of the system.

Incident monitoring enables organisations to identify particular areas of concern and devise interventions. Successful implementation of incident monitoring by health units has been followed by improved individual staff morale with fewer personnel feeling powerless to effect change.\textsuperscript{20} However, research identifies that incidents are often under-reported.

Other methods to support and validate the incident management system are the use of trigger tools. The Institute of Healthcare Improvement (IHI) promotes the use of triggers, or clues, to identify adverse events (AEs). The IHI website notes that, “Traditional efforts to detect AEs have focused on voluntary reporting and tracking of errors. However, public health researchers have established that only 10 to 20 percent of errors are ever reported and, of those, 90 to 95 percent cause no harm to patients. Hospitals need a
more effective way to identify events that do cause harm to patients, in order to select and test changes to reduce harm.” There are a range of trigger tools available for measuring adverse events, medication errors and other facets of care on the website: http://www.ihi.org/knowledge/Pages/Tools/IntrotoTriggerToolsforIdentifyingAEs.aspx

Point prevalence surveys can be used as a snapshot measure of the proportion of people in a population who have a condition at a particular time on a particular day. For example, point prevalence surveys may be used to detect the presence of pressure ulcers or healthcare-associated infections (HAI), or the use of antimicrobials. This work can be linked back to the validity of the incident reporting system.

Explicit criteria for assessing the degree of risk can be expressed as a ‘risk matrix’, as shown in Figure 3.3 on page 28, which enables the severity of the outcome of an incident to be plotted against the likelihood of the incident recurring. This can be used as a tool to set priorities and identify areas that require root cause analysis or further attention.

**Gap analysis**

A gap analysis is a technique for identifying needed improvements by comparing the current environment and current processes against an envisioned future state.\(^\text{21}\) It is a business assessment tool enabling an organisation to compare its actual performance with its potential performance. After identifying the differences between the two, the magnitude of the differences between them is analysed and becomes the basis for defining improvement strategies.

The process involves determining, documenting and approving the variance between service or process requirements and current capabilities. Gap analysis naturally flows from benchmarking or other assessments. Once the general expectation of performance in the industry is understood it is then possible to compare that expectation with the level of performance at which the organisation currently functions. This comparison becomes the gap analysis. Such analysis can be performed at the strategic or operational level of an organisation.
Gap analysis provides a foundation for how much effort, in terms of time, money and human resources, is required to achieve a particular aim.

Internal organisational objectives and the systems, structures and mechanisms required for success should be clear before this process begins.

**Surveys**

**What are they?**
Surveys can be used to collect standardised information from a selected sample of people. Surveys often collect comparable information from a relatively large number of people in particular target groups.

**What can we use them for?**
- Providing baseline data against which the performance of the strategy, program, or project can be compared.
- Comparing different groups at a given point in time.
- Comparing changes over time in the same group.
- Comparing actual conditions with the targets established in a program or project design.
- Describing conditions in a particular community or group.
- Providing a key input to a formal evaluation of the impact of a program or project.

**Types of surveys**
- Hand-out questionnaires
- On-line survey tools (such as SurveyMonkey)
- Mailed questionnaires
- Satisfaction surveys.
Advantages

- Findings from the sample of people interviewed can be applied to the wider target group or the population as a whole.
- Quantitative estimates can be made for the size and distribution of impacts.

Disadvantages

- Results are often not available for a long period of time.
- Potential bias in terms of who responds.
- The processing and analysis of data can be a major bottleneck for larger surveys even where computers are available.
- Surveys can be time-consuming.
- Many kinds of information are difficult to obtain through formal surveys.

Patient feedback systems

Consumer / patient feedback provides healthcare organisations with information and insight on their consumer / patients' view of the services they provide.

In some States / Territories, public hospitals may be required to use a statewide survey tool, while a private hospital group may have standardised surveys, where other organisations either design their own survey, or contract the task to a private company. Whatever process is used, survey tools should be relevant to the organisation and, where possible, developed with the input of consumers, thereby increasing the likelihood that questions are valid and written in language appropriate to consumer needs.

Consumer / patient satisfaction surveys should aim to address consumers' experiences, as well as their satisfaction with different dimensions of care. In addition, consumers should be asked to rank the importance of each dimension. This will allow the organisation to direct their quality improvement initiatives to those areas consumers identify as being most important to their care. For example, consumers may rate both the quality of information provided by medical staff about tests and treatment and the quality of food as being very poor, but rank the provision of information about tests and treatment more highly than the quality of food. Such information would allow organisations to give priority to improving the quality of information provision to consumers.
For consumer / patient satisfaction surveys to have any value, they must be methodologically rigorous, clearly linked to action that produces meaningful changes in service quality and part of a broader range of approaches.

Consumer / patient satisfaction surveys are not an isolated event, but rather the beginning of a continuous improvement cycle. Organisations should use the survey results to design and track quality improvement over time, as well as compare themselves to other healthcare organisations.

**Rapid appraisals**

**What are they?**
Rapid appraisal methods are a quick, low-cost ways to gather the views and feedback of consumers / patients and other stakeholders, in order to respond to decision makers’ needs for information.

**What can we use them for?**
- Providing rapid information for management decision making, especially at the project or program level.
- Providing qualitative understanding of complex socioeconomic changes, highly interactive social situations, or people’s values, motivations, and reactions.
- Providing context and interpretation for quantitative data collected by more formal methods.

**Types of appraisals**
- Focus groups
- Interviews
- Direct observation.

**Advantages**
- Low cost
- Can be conducted quickly
- Provide flexibility to explore new ideas.
Disadvantages

- Findings usually relate to specific communities or localities, thus difficult to generalise from findings.
- Less valid, reliable, and credible than formal surveys.

Audits

Audits are a key requirement of the NSQHS Standards. The Australian Commission on Safety and Quality in Health Care (ACSQHC) provides a list of actions where clinical audit is to be undertaken. This is available in the relevant Accreditation Workbooks, which can be accessed from their website: [http://www.safetyandquality.gov.au/](http://www.safetyandquality.gov.au/)

Clinical audits can be used to improve all aspects of clinical care. Auditing is a systematic framework used by health professionals for investigating and assessing clinical work and for introducing and monitoring improvements. The process of auditing is a cyclical activity of reviewing clinical performance and refining practice to remedy identified deficiencies and measuring the outcomes against agreed standards. It has the potential to deliver substantial benefits to consumers / patients in terms of improved quality of care and safety of service delivery.\(^{22}\)

The following factors should be considered when including clinical audits within a quality improvement program:

- defining the systems for gathering information, such as a health record review for infection control monitoring
- resources allocated to the audit process
- choice of audit topic
- audit method
- appropriate sampling
- frequency of audit
- understanding of results
- education of staff
- multidisciplinary involvement
- privacy and confidentiality
- integration of audit processes into routine management
• improvements in care to be monitored, sustained and reinforced
• communicating lessons learnt.

Queensland Health has developed audit tools for the NSQHS Standards that require clinical audits. These are available to all organisations from the Queensland Health website: http://www.health.qld.gov.au/psq/safetyandquality/nsqhs-audit-tools.asp or through a link on the ACSQHC’s website: http://www.safetyandquality.gov.au/

The international standard AS/NZS ISO 19011: Guidelines for quality and/or environmental management systems auditing may be used to provide guidance on the principles of auditing and managing audit programs. Organisational policy to support the internal audit program may include:
• organisation audit program
• audit scheduling
• audit sample size
• auditor training
• independence of the audit process
• approval of audit tools
• action planning.

Accreditation survey results and recommendations

An organisation’s survey report can identify areas of risk or opportunities for improvement. Surveyor recommendations will alert an organisation to an action that requires performance improvement.

The EQuIPNational Accreditation Program guide (page 22, available on the ACHS website) describes how organisations can use their survey report. Uses include to:
• provide feedback to staff
• identify where improvements are needed
• compare the organisation’s performance over time
• evaluate existing quality management procedures
• assist the monitoring of risks and their management
• highlight strengths and opportunities for improvement
• demonstrate evidence of achievement to stakeholders.
Clinical indicators

The use of clinical indicators (CIs) by healthcare organisations continues to be an important component of EQuIP programs and ACHS membership. The collection of specific ACHS Clinical Indicators is not mandatory and organisations may choose to develop their own indicators or use other indicators. Indicators assist healthcare organisations to identify clinical areas that may benefit from a review of their processes and activities, with the goal of improving the quality of care. Clinical indicator data can be of assistance when presenting evidence for NSQHS Standard 1, action 1.2.1.

A clinical indicator is defined simply as a measure of the clinical management and/or outcome of care. A well-designed indicator should ‘screen’, ‘flag’ or ‘draw attention’ to a specific clinical issue. Usually rate-based, indicators identify the rate of occurrence of an event. Indicators do not provide definitive answers; they are designed to indicate potential problems that should be addressed, usually demonstrated by statistical outliers or variations within data results. The indicators are used to assess, compare and determine the potential to improve care. Indicators are, therefore, tools that assist an organisation to assess whether a standard of consumer / patient care is being met.

Members of the ACHS Clinical Indicator Program can submit CI data to ACHS on a six monthly basis. Organisations are sent the national aggregate data following this submission. Using PIRT Online (the CI data submission tool), organisations can produce Comparative Reports from the national data set and for their peer group. Each report provides information to identify statistically significant differences between the individual organisation, all organisations and peer groups. The reports also identify potential gains to be made if an organisation’s rate was improved to that of the average and provides information on peer as well as Australian and New Zealand participation.

The ACHS Clinical Indicator Program does not incur any additional charge for member organisations of ACHS.

Further information about the specific clinical indicator sets and the Comparative Report service are available for ACHS members from the ACHS website [http://www.achs.org.au](http://www.achs.org.au) or by contacting the ACHS performance and Outcomes Service. Email: pos@achs.org.au
Patient journey surveys

Mapping the patient journey through the organisation is one way to gain an understanding of current processes, and to identify where the actual process deviates from the intended one. Patient journey survey methodologies review an organisation’s processes for care delivery, by following the experiences of patients and their information as they move through a health service. Patient journey survey methodologies, including tracer methodologies, have been employed in health care since the 1970s. They are used to evaluate the quality of care and identify areas that need improvement. The methodology can focus on the diagnosis of individual diseases, for example schizophrenia, to examine the care provided and health outcomes. Alternatively, a tracer may be performed on a specific medication to reveal the prevalence and treatment of a particular condition, for example Parkinson’s disease. Healthcare systems can also be evaluated through the use of patient journey methodologies. Studies have examined systems in primary care, ambulatory care and emergency medicine. The patient journey methodology has been effective in identifying discrepancies between actual and predicted levels of care.

Using this methodology, organisations can track individual patients through their health record, or by reviewing systems such as rehabilitation or radiology.

In 2008 ACHS performed a short study on behalf of the Australian Commission on Safety and Quality in Health Care (ACSQHC), with the assistance of the Centre for Clinical Governance Research in Health at the University of New South Wales. The process used was to begin by selecting a patient health record and use that individual record as a roadmap to move through the organisation, to assess and evaluate the organisation’s compliance with selected clinical pathways and the organisation’s systems for providing care and services. Surveyors retrace the specific care processes that an individual experienced by observing and talking to staff in areas in which the individual received care. This allows surveyors to assess how staff members from various disciplines work together and communicate across services to provide safe, high quality care.
Information on this study can be found in the article “An empirical test of accreditation patient journey surveys: randomised trial”, published in the *International Journal for Quality in Healthcare*.\(^{34}\)

There is not yet a systematic approach to using patient journey methodologies in health service assessment in Australia.\(^{35}\) Although patient journey approaches have been used in accreditation overseas for some time, there has been little empirical investigation of their effectiveness.

A supplement to the *Medical Journal of Australia* published in 2008 focused on clinical process redesign. It included two studies in which patient journey methodology was applied to improve systems in healthcare facilities in NSW and SA.\(^{36}\)

The Joint Commission has published a book titled ‘*Tracer methodology tips and strategies for continuous systems improvement*’\(^{33}\) that you can purchase from the Joint Commission website (http://www.jointcommission.org/); it explains how to apply the method to your organisation as a quality improvement tool.

### Benchmarking

Benchmarking is “the continuous measurement of a process, product, or service compared to those of the toughest competitor, to those considered industry leaders, or to similar activities in the organisation in order to find and implement ways to improve it. This is one of the foundations of both total quality management and continuous quality improvement. Internal benchmarking occurs when similar processes within the same organisation are compared.”\(^{37}\)

The first step in the benchmarking process is to identify what needs to be benchmarked; formation of a key stakeholder group will assist with this decision. A flow chart on how to benchmark is provided in Figure 4.7.
There are different types of benchmarking that an organisation can use. These include:

**Internal**

In most large organisations there are similar functions in different units / departments / sub-services. One of the simplest benchmarking exercises is to compare these internal operations. One of the objectives of internal benchmarking is to identify the internal performance standards of an organisation.

The advantages of internal benchmarking are that there is often a significant amount of information-sharing accompanying internal benchmarking and many organisations are able to obtain immediate gains by identifying their best internal practices and transferring those to other parts of the organisation. This internal knowledge can become the baseline for later investigation and measurement involving external benchmarking partners.

The disadvantage of internal benchmarking is that it fosters an internal organisational view. It is too easy to ignore that other organisations have the edge by solely concentrating on outperforming internal rivals.

**External**

Benchmarking can be done externally against other organisations. The objective is to compare aspects of the organisation with another of approximately the same size and geographical type, such as rural / metropolitan or public / private, providing the same or similar services and ideally the best in the category so improvements may be made. It is desirable to find organisations that are recognised as leaders or which are known to be achieving standards of excellence.

The advantage of external benchmarking is that you can see how performance relates with similar organisations. The main disadvantage is finding another organisation that is willing to allow access to information.

**Competitive**

Competitive benchmarking concentrates on key performance indicators, including published data.
Process
Process benchmarking compares processes to maximise opportunities for learning and improving.

Choosing which type of benchmarking to use depends on what needs to be benchmarked.

To start benchmarking, the following steps might be helpful:

- **Staff education in benchmarking.** This education would include an overview of benchmarking and its benefits.
- **Form a multidisciplinary benchmarking team.** In a large or complex organisation there may need to be more than one team. In a small organisation the team may be a doctor and a nurse.
- **Identify a process to benchmark.** It may be best to start with a process where there are staff who are keen and able to benchmark or any area that would benefit from improvement.
- **Understand how the organisation’s process works.** This is often done through flow charts or clinical pathways and identifying internal sources of variance.
- **Identify possible benchmarking partners.** This can be done through:
  - commercial benchmarking groups
  - professional associations, peak organisations and networks
  - conferences
  - literature and web searches
  - personal contacts.
- **Decide what measurements to adopt.** These measurements may include:
  - clinical indicators
  - key performance indicators
  - process and outcome measures.
- **Compare information with benchmarking partners.** Comparison of numerical data, flow charts or clinical pathways and site visits can all be useful. This should be performed within a culture of openness and cooperation. The Health Round Table is an example of a benchmarking consortium. For more information on the consortium, please go to [www.healthroundtable.org](http://www.healthroundtable.org)
• Utilise the information for continuous quality improvement with a customer focus. Benchmarking provides ‘...significant opportunity to further demonstrate its commitment to public accountability and to continuous improvement of patient care’.

Figure 4.7 Steps in benchmarking

Depending on organisational characteristics, it may well be advantageous to change the order of these steps.

Always try to ensure data integrity.
Summary

The processes outlined in this section may lead to the identification of a number of areas requiring improvement. Organisations will need to consider all of the information gathered and prioritise the improvements according to either the level of risk the issue may cause and/or the organisation’s needs.

The issues selected for an improvement process should then be detailed on the organisations Quality Improvement Plan, as described in Section 4, page 36.
Section 5

Quality Improvement Tools

There are many quality improvement tools that can be used for various stages of performance improvement. Some tools can address a number of steps, while others will only perform one part of the process. The selection of tool should be a consideration when planning the quality improvement process, dependent on the project, the people involved (such as how many and who), and the operator’s understanding of how the tool works.

The following diagram lists some tools and their uses. Flow charting, cause and effect diagrams, brainstorming and Pareto charts are some of the tools that are commonly used within the quality improvement cycle that can help identify problems, analyse processes and identify improvement options. Histograms, run charts and control charts display data and provide information for decision making. Some of these tools are suitable for teams, and others are more useful for individual use.

Using the Right Tool for the Task

<table>
<thead>
<tr>
<th>Tool</th>
<th>Identification of Processes</th>
<th>Analyzing Processes and Data</th>
<th>Planning Solutions</th>
<th>Measuring Improvement Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affinity Diagram</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Bar Chart / Graph</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brainstorming</td>
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<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Cause and Effect (Fishbone)</td>
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<td>x</td>
<td></td>
<td></td>
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<tr>
<td>Control Charts</td>
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<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Failure Mode Effects Analysis (FMEA)</td>
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<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Flow Chart</td>
<td>x</td>
<td>x</td>
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<td>x</td>
</tr>
<tr>
<td>Histograms</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
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<tr>
<td>Pareto Chart</td>
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<td>x</td>
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<td>x</td>
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<tr>
<td>Patient Journey</td>
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<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Run Chart / Line Graph</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

Figure 5.1 Quality tool matrix
Identifying the current steps in a process

Before any improvements can be made to a process, it is important to be clear about how it currently works, as it is only with this understanding that areas requiring improvement can be identified. There are many ways an organisation can identify steps and map a current process, as indicated in Figure 5.1.

The mapping of a process should include the activities, actions, and decisions which occur between its starting and stopping points, and will require observation of the flow of work, which will need to occur on more than one occasion. This is to ensure that what is being mapped is not how people think the process is working, how they would like it to work, or how a policy or procedure says it should work. Only a display of the process as it is actually working can reveal the improvements that may need to be made.

Analysing the process

Knowing the current process is the first step to identifying ways to improve it. Many tools can be used to analyse processes and data, convert the data into information and then present it for use for improvement within the organisation. Some of these may be the same as tools used to identify the process, as well as to design solutions, and should be selected depending on the needs of the organisation, the understanding or preferences of the improvement team and the type of processes being analysed.

Analysing the process includes looking at each activity within it and determining its importance to the process outcome. Analysis may indicate that some steps or decision points are redundant or unnecessary, or that there may be a weak link in the process that requires the addition of one or more steps. Even if the data indicate that the process is meeting the objective, the team should consider whether it is feasible to improve the process further.

Planning solutions to improve the process

Following analysis, there should be a clear picture of where the process may need improvement. It could be where the actual workflow deviates from a documented procedure that is based on best-practice, or the procedure could simply be inappropriate
to achieve the desired outcome. Either way, the optimum process will need to be identified and mapped in order to ensure that this is the process that is finally used.

Planning the solution is usually best performed with the input from those who perform the process. Gaining insight from a number of participants offers the opportunity for solutions that may not otherwise be thought of.

**Measuring improvements**

Measurement is a critical part of evaluation of change management processes. Measurement generally focuses on whether changes are efficient (for example, more patients are treated within a specified time period in the emergency department) or more importantly whether changes are effective (more patients are treated in the emergency department with reduced need for admission or lower rates of re-presentation within a specified time period). While being efficient is commendable, the effectiveness of changes is a more important measure, as being effective reduces long-term waste, duplication and inefficiency in systems.

Efficiency and effectiveness indicators can only be determined when goals and objectives for process improvement are clearly articulated when changes are being considered for implementation, and are measurable. Thus, the desired outcomes for change need to be translated into measures. Failure to determine outcome measures as part of the change management planning makes evaluation very difficult post-implementation. By clarifying the measures up front, everyone is clear on expectations or the results to be achieved.

Put all expectations for improvement in writing, determine the outcomes in qualitative and quantitative form and communicate these to all of the stakeholders involved in the improvement process. Once the indicators are established, it is then important to be able to ensure that the data are readily available or easily obtained to support measurement, evaluation and action. Using the emergency department example, patients are allocated to a triage category which has a specified time limit in which the patient should be seen. The patient administration system records the time of arrival to the time of assessment, thus enabling reports to be produced and data to be trended over time.
Measuring performance repetitively can help an organisation determine whether the improved processes implemented have been successful, or if further action is required to reach the desired target measure.

Information about the specific tools listed in Figure 5.1 is shown below. These tools are presented in alphabetical order, and not in order of importance.

**Affinity diagrams**
This tool is often used to group ideas generated by brainstorming. It allows users to organise and present large amounts of data (ideas, issues, solutions, problems) into logical categories based on users’ perceived relationships of the data. The final diagram will show the relationship between the issue in question and the categories.

### Operating Room Performance Issues

<table>
<thead>
<tr>
<th>Emergency vs Elective</th>
<th>Capacity</th>
<th>Equipment</th>
<th>Staff Issues</th>
<th>Patient Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives cancelled due to emergencies</td>
<td>Surgeon availability</td>
<td>Delays in sterilisation</td>
<td>Lists running overtime</td>
<td>Arrival to theatre</td>
</tr>
<tr>
<td>Beds unavailable</td>
<td>Available vs used Operating rooms</td>
<td>Sterilisation failure</td>
<td>Staff overtime</td>
<td>Delays in consent process</td>
</tr>
<tr>
<td>Changes to lists</td>
<td>Scheduled vs actual times</td>
<td>Equipment failure</td>
<td>Staff shortage</td>
<td>Failure of patient to attend</td>
</tr>
<tr>
<td>Organisation of lists</td>
<td>Patients fully prepared</td>
<td>Equipment loss</td>
<td>Training of staff</td>
<td>Late investigations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Availability of equipment</td>
<td>Staff skill mix</td>
<td>Patient preparation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staff fully prepared</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 5.2 An affinity diagram**

Features of the Affinity process that are important to its success:
- It works well with a team of 4-6 people. There should be a good mix of experiences and perspectives, and the diagramming session should be approached with a creative, open mind.
- Start with a clear statement of the problem or goal to be explored, or have the team compose a statement about what they are trying to accomplish, or what the end result will be. This statement should be broad and neutral, yet clearly understood and agreed upon by all members of the team.
- Provide a time limit for the session, usually 45-60 minutes is sufficient.
- Affinitise silently. The most effective way to work is to have everyone move the displayed ideas at will, without talking. This is a new experience for many people. It has two positive results: it encourages unconventional thinking and discourages semantic battles, while it also helps prevent one person from steering the Affinity.
- Go for gut reactions. Encourage team members not to agonise over sorting but to react quickly to what they see.
- Speed rather than deliberation is the order of the day, so keep the process moving. It isn’t important to define why they belong together. Copy an idea into more than one affinity set if appropriate. Look for small sets. Should they belong in a larger group? Do large sets need to be broken down more precisely?
- It is acceptable to disagree with people having a different viewpoint.
- Templates can be created using various software programs.

Figure 5.3 Bar chart example showing physiotherapy equipment loss

Bar charts / graphs
Bar charts are used to give the user a visual overview of how values for something relate to each other. It also enables users to make their own comparisons of data items.

A bar chart is a visual display using bars to represent the relative size of different categories of a variable, with each category or value of the variable represented by a bar, usually with a gap between the bars. A bar chart is often used to illustrate the major
features of the distribution of data because it is an easier and quicker way to see and grasp the information.

**Brainstorming**

Brainstorming is a very useful tool for getting information and ideas from people. It can help an organisation to come up with what the problems are and/or find possible solutions. The goal is to come up with as many ideas as possible without stifling creativity. Once a list of ideas is available the ideas are analysed and best solutions explored.

There are many techniques for brainstorming. No matter which is chosen there are some fundamental rules to follow:

- start with a well-defined problem, issue or topic
- have an informal atmosphere
- allow enough time but set a time limit
- assign a facilitator and recorder
- let people know the rules
- have participants from a number of backgrounds
- encourage freewheeling / wild ideas
- encourage all to participate
- keep the pace fast and the situation exciting
- ensure a collaborative environment
- piggyback ideas onto the ideas of others
- suspend judgment as all ideas are accepted
- negative comments are not accepted
- no answer is wrong
- clarify if unsure
- post all ideas as suggested, write everything down
- remember to have breaks.
**Cause and Effect (Fishbone)**

Cause and effect analysis offers a structured approach for a team to identify, explore and display graphically all of the possible causes related to a problem in order to discover the root cause. The problem is the head of the fishbone. The cause and effect diagram groups the causes under suitable headings (the major bones). The causes should be brainstormed to achieve the most comprehensive list and useful groupings.

**Delays in theatre:**

![Fishbone Diagram]

*Figure 5.4 Example cause and effect diagram*

**Control charts**

A control chart is a visual representation of process consistency intended to highlight special cause (assignable unique variation) from common cause (normal and expected variation), and whether or not the process is performing predictably. Control charts may be used in Identification, Analysis and Measurement phases and work best for numerical data.

Control charts are graphic representations of a collection of data points from a particular process over a period of time. The repetitive nature of healthcare processes and procedures lend themselves well to this type of analysis.

There are several different control chart types that can be used, depending on the type of data to be analysed, although all control charts contain a centreline representing the process average, or expected performance, as well as upper and lower control limits that set the bounds for an acceptable area of deviation from the centreline.
Figure 5.5 Control chart

After plotting a sufficient amount of data points, these types of charts can identify if a process is 'in control' or 'out of control', depending on whether the data are plotted within the set acceptable area, and from there, investigations into the reasons for variation can identify areas that may require improvement.

Failure Mode Effects Analysis (FMEA)
Failure Mode Effects Analysis (FMEA) is a systematic, proactive method for evaluating a process to identify where and how it might fail, and to assess the impact of those failures, in order to identify the parts of a process that are most in need of change or improvement. It requires input from the entire team involved in that process, to ensure that all steps are examined. It is important to ensure that all steps within the process are numbered. A flow chart may assist this process.

The basic steps for performing an FMEA are:
1. Select the process to evaluate
2. Recruit a multidisciplinary team, including those involved at any point in the selected process
3. Have the team meet and identify (for example by a flowchart) all of the steps in the selected process
4. Using the list of questions below, list anything that could go wrong with the selected process
5. Have the team assign a numeric value for the likelihood of occurrence (Figure 5.6a), detection (Figure 5.6b) and severity (Figure 5.6c)
6. Evaluate the results to identify the Risk Profile Number (RPN). This is done by multiplying the three scores obtained (the 1 to 10 score for each of likelihood of occurrence, detection, and severity).

The steps in the process that score the highest are the main areas where failure may occur, and identify the most important parts of the process that require improvement.

The diagrams below show examples of an FMEA of two medication dispensing scenarios. FMEA is not suitable for evaluating the entire program; rather, it is suitable for evaluating components of that program.38

**Questions to ask when completing the FMEA are:**

- **Failure Mode:** What could go wrong?
- **Failure Causes:** Why would the failure happen?
- **Failure Effects:** What would be the consequences of the failure?
- **Likelihood of occurrence:** 1-10, 10 = very likely to occur
- **Likelihood of Detection:** 1-10, 10 = very unlikely to detect
- **Severity:** 1-10, 10 = most severe
- **Risk Priority Number (RPN):** Likelihood of occurrence x Likelihood of Detection x Severity.

**Figure 5.6 Sample FMEA: Comparison of Five Medication Dispensing Scenarios**

<table>
<thead>
<tr>
<th>Scenario Steps in the Process</th>
<th>Failure Mode</th>
<th>Failure Causes</th>
<th>Failure Effects</th>
<th>Likelihood of Occurrence (1-10)</th>
<th>Likelihood of Detection (1-10)</th>
<th>Severity (1-10)</th>
<th>Risk Profile Number (RPN)</th>
<th>Action to Reduce Occurrence of Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orders are written for new medications</td>
<td>The first dose may be given prior to pharmacist review of the orders</td>
<td>Medication ordered may be available in the dispensing machine and can be accessed if next delivery is too long to wait</td>
<td>Patient may receive an incorrect medication, incorrect dose, or a dose via incorrect route</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>20</td>
<td>Assign clinical pharmacists to patient care units so that all medication orders can be reviewed as they occur</td>
</tr>
<tr>
<td>Orders are written to discontinue a medication or change the existing order</td>
<td>Discontinued medications are still available after orders</td>
<td>Medications in dispensing machines are not removed Multi-dose vials may be available. It may be 3 hours until the next removal of medications</td>
<td>Patient may receive an incorrect medication, incorrect dose, or a dose via incorrect route</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>175</td>
<td>Remove multi-dose vials from dispensing machines Remove discontinued medications more frequently</td>
</tr>
</tbody>
</table>
## Figure 5.6a Occurrence rating scale

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Certain probability of</td>
<td>Failure occurs at least once a day; or, failure occurs almost every time.</td>
</tr>
<tr>
<td></td>
<td>occurrence</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Failure is almost inevitable</td>
<td>Failure occurs predictably; or, failure occurs every 3 or 4 days.</td>
</tr>
<tr>
<td>8</td>
<td>Very high probability of</td>
<td>Failure occurs frequently; or, failure occurs about once per week.</td>
</tr>
<tr>
<td>7</td>
<td>occurrence</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Moderately high probability</td>
<td>Failure occurs about once per month.</td>
</tr>
<tr>
<td>5</td>
<td>of occurrence</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Moderate probability of</td>
<td>Failure occurs occasionally; or, failure once every 3 months.</td>
</tr>
<tr>
<td>3</td>
<td>occurrence</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Low probability of</td>
<td>Failure occurs rarely; or, failure occurs about once per year.</td>
</tr>
<tr>
<td>1</td>
<td>occurrence</td>
<td>Failure almost never occurs; no one remembers last failure.</td>
</tr>
</tbody>
</table>

## Figure 5.6b Detection rating scale

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>No change of detection</td>
<td>There is no known mechanism for detecting the failure.</td>
</tr>
<tr>
<td>9</td>
<td>Very Remote / Unreliable</td>
<td>The failure can be detected only with thorough inspection and this is not feasible or cannot be readily done.</td>
</tr>
<tr>
<td>8</td>
<td>Remote</td>
<td>The error can be detected with manual inspection but no process is in place so that detection left to chance.</td>
</tr>
<tr>
<td>7</td>
<td>Moderate chance of</td>
<td>There is a process for double-checks or inspection but it is not automated and/or is applied only to a sample and/or relies on vigilance.</td>
</tr>
<tr>
<td>6</td>
<td>detection</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>High</td>
<td>There is 100% inspection or review of the process but it is not automated.</td>
</tr>
<tr>
<td>4</td>
<td>Very High</td>
<td>There is 100% inspection of the process and it is automated.</td>
</tr>
<tr>
<td>3</td>
<td>Almost certain</td>
<td>There are automatic ‘shut-offs’ or constraints that prevent failure.</td>
</tr>
<tr>
<td>2</td>
<td>Slight danger</td>
<td>Failure causes no injury and customer is unaware of problem, however the potential for minor injury exists; little or no effect on system.</td>
</tr>
<tr>
<td>1</td>
<td>No danger</td>
<td>Failure causes no injury and has no impact on system.</td>
</tr>
</tbody>
</table>

## Figure 5.6c Severity rating scale

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Extremely dangerous</td>
<td>Failure could cause death of a customer (patient, visitor, employee, staff member, business partner) and/or total system breakdown, without any prior warning.</td>
</tr>
<tr>
<td>9</td>
<td>Very dangerous</td>
<td>Failure could cause major or permanent injury and/or serious system disruption and interruption in service, with prior warning.</td>
</tr>
<tr>
<td>8</td>
<td>Dangerous</td>
<td>Failure causes minor to moderate injury with a high degree of customer dissatisfaction and/or major system problems requiring major repairs or significant re-work.</td>
</tr>
<tr>
<td>6</td>
<td>Moderate danger</td>
<td>Failure causes minor injury with some customer dissatisfaction and/or major system problems.</td>
</tr>
<tr>
<td>5</td>
<td>Low to Moderate danger</td>
<td>Failure causes very minor or no injury but annoys customers and/or results in minor system problems that can be overcome with minor modifications to system or process.</td>
</tr>
<tr>
<td>4</td>
<td>Slight danger</td>
<td>Failure causes no injury and customer is unaware of problem, however the potential for minor injury exists; little or no effect on system.</td>
</tr>
<tr>
<td>3</td>
<td>No danger</td>
<td>Failure causes no injury and has no impact on system.</td>
</tr>
</tbody>
</table>
Flow charts

Flow charts are a visual representation of the process and help team members identify points where problems might occur, or intervention points for solutions. Standard symbols, as shown in Figure 5.7, are often used in flow charts but are not necessary. These will be particularly useful for undertaking risk assessments of systems as required for NSQHS Standards 3-10.

Figure 5.7 Standard flow chart symbols

There are different types of flow charts that an organisation can use. The following information identifies two types of flow charts that organisations most often use.39

- **Top-down flow charts** identify the major steps in a process and force people to narrow their thinking to those steps that are essential to the process. An organisation can use the top-down flowchart to identify issues and potential sources of problems. Top-down flow charts are also useful for planning in that teams can spend time looking at a project as a whole rather than the detail.

- **Detailed flow charts** offer more complexity than the top-down flow chart. A detailed flow chart breaks down the process into the sub-processes which makes them and the process as a whole, easier to examine and understand. It is useful to flow chart a process as a team, allowing multidisciplinary input and ensuring that different perspectives are considered and added to the chart. Once a chart is complete it can then be used to identify:
  - where problems may be occurring
  - if there are any inherent issues that need examining
  - areas for improvement
what the ideal process would be.

The new process can then be put into practice.40

It does not matter how well the flow chart is drawn up. A simple hand-drawn chart will accomplish the task. The important aspect is that the process that requires understanding or improvement is charted. See Figure 5.8 for an example of a detailed flow chart.

![Flow Chart](image.png)

**Figure 5.8 Example of detailed flow chart: Computer recovery system**
Histograms
A histogram presents data collected over time as a frequency distribution in a bar chart form. The histogram differs from a bar chart in that it is the area of the bar that denotes the value, not the height, a crucial distinction when the categories are not of uniform width. Using the chart command in Excel, data from a check sheet can be presented visually to obtain a sense of their distribution. Processes that produce excessively variable results may have excessive waste, defects, errors or increased costs. Knowing the level of variation leads organisations to ask whether that variation could affect quality, cost, productivity, or all three. An organisation then should also ask, “What causes the variation?” Having the histogram allows an organisation to find out facts about the process outcomes.

Using the histogram information with other quality tools will help solve problems that might be identified.

![Histogram Example](image)

**Figure 5.9 Example of a histogram**

Pareto charts
The Pareto principle (or 80-20 rule) identifies that 80% of problems are accounted for by 20% of causes. Organisations can use this rule and target the 20% of causes. In doing this they are targeting the vital few. A Pareto chart graphically ranks causes by frequency by using data from the organisation. Once the causes with the highest frequency are identified, organisations can then ask the question, “Why?” There are various ways to answer this question.
How to Construct a Pareto chart

A Pareto chart can be constructed by segmenting the range of the data into groups (also called segments, bins or categories). For example, to map the reasons for cancellation of procedures, group the data into the following categories:

- lack of beds
- pathology not complete
- consumer / patient request
- anaesthetic issues
- financial issues
- other.

The left-side vertical axis of the Pareto chart is labeled ‘frequency’ (the number of counts for each category), the right-side vertical axis of the Pareto chart is the ‘cumulative percentage’, and the horizontal axis of the Pareto chart is labeled with the group names of the response variables.

![Pareto chart example](image)

**Figure 5.10 Example Pareto chart illustrating another way to show the same information as in the bar chart, Figure 5.3**

The number of data points that reside within each group is then determined and the Pareto chart is constructed, but unlike the bar chart, the Pareto chart is ordered in descending frequency magnitude. The groups are defined by the user.
What questions the Pareto chart answers.
- What are the most significant issues facing our team or organisation?
- What 20% of sources are causing 80% of the problems?
- Where should we focus our efforts to achieve the greatest improvements?

Run charts / line graphs
A run chart or line graph tracks changes in an important variable over time. Run charts are easy to interpret and useful in predicting trends. Organisations can use run charts to compare a performance measure before and after implementation of a solution. The horizontal axis of a run chart is always time. The charts require the axes to be named to identify what was measured and when.

A run chart represents data or sets of data that have been collected over a period of time. The data are plotted on a graph corresponding to standard intervals of time, and a line is drawn connecting the data points. If updated regularly, line graphs help managers follow a trend over a period of time and take actions to manage the trend. The line in the graph allows managers or team members to see trends in the data (an increase, decrease, or no change) over a period of time. This can be useful to help visualise changes in the process over time, or to compare the performance before and after the implementation of a solution.

Figure 5.11 Example of a run chart showing results of an improvement program
Section 6

Evaluation

Although the evaluation section appears at the end of this Handbook, it should be a part of the risk management and quality improvement process from the start.

Evaluation is an integral part of risk management and quality improvement, as described in Shewhart’s PDSA cycle, and Deming’s PDCA cycle on page 33, and will provide the organisation with a more positive experience if it is built into the improvement process to create on-going activity.

Evaluation is the systematic collection and analysis of information about a specific program or intervention in order to allow its critical appraisal. Evaluation is used to:
- improve strategies, programs, and interventions
- make more informed decisions in future planning
- clarify the options available
- account for the expenditure of funds.

There are a number of actions throughout the 15 EQuIPNational Standards that require evaluation. Most explicit evaluation items and actions are within the five EQuIP-content Standards, however NSQHS Standards 1, 2, 3 and 6 contain explicit requirements for evaluation. Further, the NSQHS Standards require organisations to undertake sample or comprehensive audits or reviews, which are a form of evaluation. Information about the NSQHS Standards that require audit or review are available on the ACSQHS website, and are listed in the Hospital Accreditation Workbook for NSQHS Standards 1 to 10.

Evaluation is collecting information about an activity, a service or some aspect of a service, in order to make necessary decisions on the effectiveness of that activity or service. Evaluation measures can be related to the structures, processes or outcomes of service delivery. A critical step in evaluation is to select the best measures for assessing whether the desired effect has been achieved.
The purpose of evaluation is to ensure that the systems the organisation has implemented work effectively. This applies not only to the evaluation of clinical systems but also to the evaluation of policy, programs and corporate systems.

“Evaluation is judging the value of something by gathering valid information about it in a systematic way and by making a comparison. The purpose of evaluation is to help the user of the evaluation to decide what to do, or to contribute to scientific knowledge.”

There are many different methods of evaluation that can be used in health services. The evaluation that is required by healthcare organisations to achieve a Satisfactorily Met rating for the applicable actions does not have to involve conventional research processes.

For example, Øvretveit provides a detailed description of the various methods of evaluation and the steps required for each method. These methods are specifically for use by clinicians, healthcare professionals and managers in health services and include:

- **Program feasibility assessment or option appraisal** which helps to decide whether an action or program should be carried out.
- **Outcome evaluation or summative evaluation**, which is often used to discover the effects of an action or program.
- **Process evaluation or formative evaluation**, which is used to evaluate how the program or reform was implemented and how that impacted on the outcome.
- **Action evaluation** where data about an intervention and its effects are collected and compared to decide future action.

To ensure systems and processes within an organisation are working, they should be regularly evaluated. This evaluation should be:

- organisation-wide
- at a level appropriate to the organisation. Organisations may not have access to the resources to undertake a complex study but there should be in place an appropriate quality program that ensures completion of the quality cycle
- in relation to processes that are high-risk, high-cost, high-volume and/or problem areas related to care and services
- in accordance with the evaluation requirements of a specific action
reliable in that if the evaluation was repeated the results would remain the same
valid in that the evaluation measures what it intends to measure
utilised as part of a continuous quality improvement system from both a strategic and operational perspective.

While all healthcare organisations are strongly encouraged to operate with an outcome focus to attain the Satisfactorily Met rating, it is not always possible to have verified outcomes. There should be adequate evidence of evaluation of structures and processes that comply with the bullet points above.

Structure, process and outcome

Donabedian\textsuperscript{44} identified the need in health care to look at structure, process and outcome. If evaluation of the outcome demonstrates satisfactory levels of quality, it can be presumed that the structure and process are intact.\textsuperscript{45}

Structure, process and outcome can be defined as follows:

- A structure includes the human, physical and financial resources of the organisation, such as buildings, staff, equipment and policies. Examples of structure-related quality improvement activities include improvements to security measures or increase in staff-to-patient ratio where needed.

- A process is a set of activities and the discrete steps such as procedures. Examples include improvement to the admission procedure, development of a flow chart for maintenance requests or development of clinical pathways.

- An outcome occurs as a result of a service or intervention. It looks at the end result of care and service, such as length of stay, consumer / patient satisfaction, mortality and morbidity rates. Examples of some outcome-related quality improvements include meeting best-practice care outcomes, decreasing complaint rates or increasing satisfaction with the care provided.
In identifying which activities to implement, an organisation should look at striking a balance between structure, process and outcome. Three questions organisations should ask themselves when looking at structure, process and outcome are:

- How did this improve organisational performance?
- How did this improve the quality of care or service?
- Do staff know about it? 45

**Structure**

Evaluations of structure are undertaken to understand how the various components of the organisation support the activities of the organisation. Structure relates to the supportive framework of the organisation in which care is delivered and includes the staff, facilities, equipment and resources. Examples of structure evaluation include:

- availability of resources
- percentage increase in new staff
- regularity of equipment replacement
- number and type of contracts with external parties
- assessment of future staff requirements.

**Process**

Process-based evaluations help clarify how a system works. Processes are the activities that make up service delivery, for example the activities carried out by staff in the delivery of care to consumers / patients. Other examples of ‘processes’ include the steps involved in the recruitment, selection and appointment of staff, and the implementation of policies and procedures. Process-based evaluation generally leads to output or results such as:

- number and type of procedures performed
- result of implementing new policies, such as improved compliance with WHS legislation
- degree of compliance with best-practice guidelines
- number of staff self-reporting a change in practice after attending professional development
- identification of staff concerns with data collection procedure
- number and type of meeting actions addressed within agreed timeframes.
Outcome
Outcome evaluation looks at what happened because of what was done. An outcomes-based evaluation encourages an organisation to ask if it is really doing the right activities to bring about the outcomes it believes to be needed by consumers / patients.

There are many measurable outcomes which can be either short-term, such as changes in knowledge, skills or attitudes; intermediate, such as changes in behavior; or long-term, such as changes in condition or status. Examples of outcome evaluation include:
- effectiveness of service delivery
- improved staff safety
- consumer / patient satisfaction
- staff / healthcare provider satisfaction
- cost-effectiveness of service delivery, for example benefits derived compared to cost of implementing
- change in knowledge, skills or attitudes of staff / healthcare provider
- change in behaviour of staff / healthcare provider.

There are six main designs used for health evaluations. They are:

- Descriptive: The report describes features of the program, policy or implementation process.
- Audit: A comparison of what is done against specified standards or parameters.
- Outcome: The ‘before’ stage is compared to the ‘after’ stage.
- Comparative: A comparison of the before-and-after states of people who received two or more different interventions.
- Randomised controlled trial: A comparison of a specified before-and-after state of people who were randomly allocated to an intervention or to a placebo or a comparison intervention.
- Intentional change to organisation: Looks at an intervention to an organisation or to health providers and at the before-and-after effects of the intervention on these targets or on consumers / patients.
Conclusion

Health care has never been more complex than it is today and it is critical that staff have access to the solutions they need to efficiently deliver high quality care and services. From new standards and core measures to constantly changing compliance regulations, organisations face a variety of high pressure challenges.

This Handbook aims to provide information on some of the requirements under the National Safety and Quality Health Service (NSQHS) Standards accreditation program and some basic principles of risk management and quality improvement.

Further information can be found on the Australian Commission on Safety and Quality in Health Care’s website: http://www.safetyandquality.gov.au/. Various other sites can provide information on tools and processes to identify and manage both risks and areas for improvement.

Feedback

ACHS welcomes feedback on this tool. Should you have any ideas for improvement or suggestions for inclusion, please contact:

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References


44. Donabedian A. *The definition of quality and approaches to its assessment*. Ann Arbor MI; Health Administration Press; 1980.
