The OSSIE Toolkit

for the implementation of The Australian Guidelines for the Prevention of Infection in Health Care 2010

Consultation Edition

- **O** Organisational leadership
- **S** Solutions and strategies for implementation
- **S** Stakeholder engagement
- Implementation
- Evaluation and maintenance

AUSTRALIANCOMMISSION ON SAFETY AND QUALITY IN HEALTHCARE

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Consultation Edition

This is the first edition of the OSSIE toolkit for the implementation of the Australian Guidelines for the Prevention of Infection in Health Care 2010. This edition has been developed as a Consultation Edition. While the development of this toolkit has incorporated consultation with a wide range of Infection Control Practitioners/Professionals and others, we know that it will benefit from further review and feedback from those using it in practice to implement the AICG, along with the other implementation tools developed by the HAI program and available on the commission website.

We are requesting feedback from users of this toolkit to assist the development of the next edition, due late 2011. Please send feedback to mail@safetyandquality.gov.au; Attention: HAI team.

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- 1.6.1 Resources worksheet
 1.6.2 Environmental readiness assessment worksheet
 3.4.1 Stakeholder assessment worksheet
 4.3.1 Implementation action plan
 5.5.1 Evaluation plan

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Key

	Case studies	Stories from practice which provide a real life example of change or improvement
?	Did you know?	Interesting points relevant to infection prevention and implementation
	Helpful hints	Ideas and suggestions to help make implementation easier
	Lessons learned	Information and recommendations based on the experience of others
Ø	Link to the AICG	Highlights where readers should refer to more detailed information contained in the AICG

Acronyms and abbreviations

ACSQHC – Australian Commission on Safety and Quality in Health Care
AICG – Australian Infection Control Guidelines
HAI – Healthcare associated infections
ICP – Infection Control Practitioner/Professional
IP&C – Infection Prevention and Control

Introduction

Welcome to the OSSIE toolkit for the implementation of the Australian Infection Control Guidelines (AICG).¹

The purpose of this OSSIE toolkit is to provide clinicians and managers with practical tools, resources and information that can be used in a range of health care settings to help implement the *Australian Guidelines for the Prevention and Control of Infection in Health Care* (also known as the *Australian Infection Control Guidelines*, or AICG) 2010.

Australians rightly expect to receive safe, high quality health care. The healthcare system generally fulfils this expectation and provides excellent care. However, some patients acquire infections during their health care which are a leading cause of preventable, and sometimes serious, harm. Apart from the pain and suffering caused to patients, healthcare associated infections (HAI) also have significant resource costs, as they prolong hospital stays and create more work for healthcare staff.

HAI can occur in any health care setting. However, while the specific risks differ, the basic principles of prevention apply. The levels of morbidity and mortality experienced by Australian patients due to HAI have the potential to be significantly reduced.

The Australian Commission on Safety and Quality in Health Care (ACSQHC) National HAI program focuses on identifying and addressing systemic problems and gaps in a nationally coordinated way. As a priority, the National Health and Medical Research Council (NHMRC) was engaged by ACSQHC to develop guidelines to provide national guidance for the control of HAI.

Did you know?

In Victoria, the cost of catheterassociated urinary tract infections (UTI) was over \$4 million per year and the cost of vascular catheter-associated infections was over \$30 million per year.

McNair et al, 2010

i. The 2010 Guidelines – what is new?

The AICG are written from a care delivery safety and quality perspective and use a risk management framework focusing on core principles and priority areas for action. They provide a basis for healthcare workers and healthcare facilities to develop detailed protocols and processes for infection prevention and control specific to local settings. This approach differs from the previous Department of Health and Ageing (DoHA) 2004 *Infection control guidelines for the prevention of transmission of infectious diseases in the health care setting*² which tend to be more prescriptive and are disease and setting specific.

The underpinning risk-management framework of the AICG ensures the basic principles of infection prevention and control can be applied to a wide range of healthcare settings including office-based practice, long-term care facilities, remote area health services, home and community nursing and emergency services.

Did you know?

The OSSIE framework was originally developed for the Clinical Handover Initiative by the Australian Commission on Safety and Quality in Health Care (ACSQHC) in 2009 to support clinical handover improvement. It has been adapted by the Health Care Associated Infection (HAI) program at the ACSQHC to be used as a framework to assist clinicians, leaders, and managers to plan for, implement and evaluate and maintain use of the Guidelines in clinical practice, regardless of the context.

1 National Health and Medical Research Council (NHMRC) (2010) Australian Guidelines for the Prevention of Infection in Health Care

2 The AICG will largely supersede the 2004 DoHA Guidelines which will be removed from the DoHA website once the AICG are approved. DoHA have confirmed they will analyse the gap between the AICG and the 2004 DoHA Guidelines and ensure information on specific areas not included in the AICG will remain on the DoHA website for reference, for example the information on Creutzfeld Jacob Disease will remain on the DoHA website which the draft Guidelines will reference.

The AICG utilise evidence and information from a range of sources, including systematic reviews, existing Australian Standards, the World Health Organisation (WHO), and the Centers for Diseases Control and Prevention (CDC) in North America. The evidence base for the AICG addresses the highest level of risk of infection transmission in the healthcare setting, and has predominantly been drawn from the acute-care setting. However, case studies giving examples of risk assessments have been included to help illustrate how these recommendations can be applied to other settings.

The AICG primarily target clinicians, ancillary staff and managers across Australia's acute care and office based practice. Given the AICG provide the evidence base and the core principles of infection control, it is anticipated they can be readily adapted into a companion resource to suit other health care settings including primary and community care.

The presence of the AICG alone, however, will not be sufficient to ensure their uptake and use in clinical practice. Getting guidelines into practice requires a specific approach, and requires time, resources and ongoing commitment throughout the facility.

ii. Why an OSSIE toolkit?

Following a public consultation for the AICG in early 2010, the NHMRC and the ACSQHC have collaborated to develop an implementation strategy including several key educational resources, a clinical educators' guide, online interactive modules for use in hospital orientation programs, a workbook, and assessment tools to facilitate learning for all practitioners, regardless of geographic or economic contexts. The online interactive modules, which reflect the AICG, are anticipated to assist in identifying risk management strategies in the reduction of healthcare associated infection. Implementation of the AICG is also supported by the production of this OSSIE guide.

Practice guidelines are an important aspect of health care. They have the potential to improve care received by promoting interventions of benefit, and discouraging ineffective interventions (Grimshaw et al, 2004). Yet despite the acknowledged significance

The challenge of getting evidence based guidelines into practice ...

Between the idea, And the reality Between the motion, And the act Falls the Shadow

T.S.Elliot, 1925

of practice guidelines, there is evidence to suggest that patients still receive care that is inappropriate and inconsistent with best practice recommendations, with some studies suggesting that between 30 and 50% of patients fail to receive interventions that are justified (Robertson and Jochelson, 2006).

OSSIE represents a five phase approach to change management:

- **O** Organisation leadership
- S Solutions and strategies for implementation
- S Stakeholder engagement
- I Implementation
- E Evaluation and maintenance

The toolkit will provide you with:

- tools to undertake an analysis of current practice against the key guideline recommendations
- an outline of how to identify barriers and links to tools to help you to do this
- tools to identify and engage stakeholders
- a suggested framework and strategies to aid guideline implementation
- stories and hints from real life practice in infection control
- resources to assist implementation.

The toolkit should be of use to any person who may be responsible for infection control practice within a health care facility, including:

- Infection Control Practitioners
- Facility managers and leaders

- Unit /Department Managers
- Clinicians.

There is no straightforward means of getting evidence based guidelines into practice. While several key organisations in Australia and overseas³ have focussed research, and developed tools and resources to support guideline implementation, effectiveness of implementation strategies remains inconsistent. Despite a growing body of research on the topic of implementation, no absolute recommendations for implementation can be made. However, there are some lessons that can be learned from the literature:

- simple dissemination of guidelines alone is not sufficient to change practice
- organisational leadership and appropriate allocation of resources is essential
- an assessment of the local context in terms of barriers and facilitators should occur
- applying a theoretical framework of change to implementation may assist (Moulding et al, 1999, Grol and Wensig 2004, Carey et al, 2009)
- stakeholders (including patients, carers and consumers) should be part of the process of choosing implementation strategies
- some strategies appear to be more successful than others, such as the use of opinion leaders (Doumit et al, 2007), multipronged approaches (Medves et al, 2009), and strategies tailored to address identified barriers (Baker et al, 2010)
- change strategies should be built into existing systems wherever possible
- consideration should be given to strategies for sustainability as part of the implementation plan.

In summary, successful implementation of the AICG (2010) will be more likely if there is strong organisational leadership, but strategies will need to be tailored to the specific context and take into account factors such as the complexity, size, resources available and the barriers and gaps identified in that setting. This toolkit has drawn on the work of a number of documents developed to support guideline implementation in a range of contexts. Documents that have assisted the development of this toolkit include The OSSIE Guide to Clinical Handover Improvement (ACSQHC, 2010), The Implementation Guide for preventing falls and harm from falls in older people (ACSQHC, 2009), and the Toolkit: Implementation of clinical practice guidelines developed by The Registered Nurses' Association of Ontario (2002). Links to each of these documents is provided in the references and resources section of the toolkit. Each phase of this toolkit provides information, tools and resources that combine recommendations from these documents, lessons from the literature, and the advice of experienced infection control practitioners, to assist implementation of the AICG.

Regardless of the tools used, the people ideally placed to lead implementation are the Infection Control Practitioner/Professional (ICP) and the members of the Infection Control and Prevention team and/or committee within the facility. These people have expertise in the area of infection prevention and control, and are likely to have a good understanding of the context and specific issues within the facility. In addition, they will have experience in implementing infection control policy and monitoring practice in relation to infection prevention and control. Where there are limited resources dedicated to infection prevention and control, the facility will need to consider which group of people will be most suitable to lead implementation of the AICG.

iii. How to use this toolkit

- Read through the entire toolkit first
- **Choose** the information most relevant to the setting and context
- **Download** the tools you would like to use
- Click on the links provided to learn more
- List your actions and start implementing the guidelines.

³ Organisations include the National Health and Medical Research Council (NHMRC) and the National Institute for Clinical Studies (NICS), an institute of the NHMRC in Australia, and overseas the Scottish Intercollegiate Guidelines Network (SIGN) and the Guidelines International Network (GIN). Links to a range of organisations that focus work on guideline implementation are included in the references and resources section of the toolkit.

This toolkit focuses on acute care settings and health care facilities. A companion guide is available with resources and examples to assist implementation in a range of primary care settings – including office practice and community health centres.

Helpful hint: Read through the entire toolkit first!

You should read through the entire toolkit at least once before starting your implementation work – then you can get together with colleagues and talk about which aspects might be most useful to your specific context and workplace environment. While the OSSIE framework offers readers a means to organise an implementation plan, it is important that all phases of OSSIE are considered collectively, as an overall approach, rather than as a step-by-step or staged approach.

iv. The business case for infection control – why implement the AICG?

The AICG outline the requirements for an effective infection prevention program which incorporates:

- a facility-wide strategic plan for infection prevention and control
- a system to manage infection prevention and control (such as a committee) with input from across the spectrum of clinical services and management, and a mechanism for considering patients' feedback
- appointment of infection control professionals and support for their continuing professional development (E.g. attendance at relevant state or national professional organisation meetings)
- incorporating infection prevention and control into the objectives of the facility's patient and occupational safety programs
- administrative support, including fiscal and human resources, for maintaining infection prevention and control programs

 adequate staff training and protective clothing and equipment, and organise workplace conditions and structures to minimise potential hazards.

The ethical imperative for reducing HAI is obvious - the need to reduce patient morbidity and mortality associated with health care (Dunagan et al, 2002). However, many health care facilities have limited resources, and priorities for resource allocation are numerous. Investing time, money and human resources into establishing a program to implement the guidelines and to maintaining a comprehensive infection prevention program will present many challenges in light of this. While the costs of infections to a facility can be easy to identify, the cost reduction benefits of infection control will not always be immediate and obvious (Dunagan et al, 2002). Following are some important points about HAI:

- Infection prevention is a patient safety issue
- HAI cause pain and suffering to patients and their families
- HAI are associated with significant resource costs – they prolong hospital stays and create more work for healthcare staff
- HAI are also a staff safety issue staff injuries from occupational exposures increase sick leave, costs associated with compensation, and reduce workforce availability.

What does a rate of 5.1/1000 line days really mean?

For one facility,

- 49 HAI in one year
- 37 patients in 1753 admissions to the ICU
- 193 lines were employed (5.2 lines / patient)
- Bottom line 1 out of every 22 patients with a central line became infected!

Adapted with permission: Jerome E Granato MD, Allegheny General Hospital

Clearly, reducing HAI has the potential to improve patient outcomes through reducing mortality and morbidity associated with infections. In doing so, there is potential to consider the flow on effect to **improving patient** safety culture overall. There is also the potential to reduce costs to the facility in the long term, and for facilities to more easily **meet** accreditation and numerical profile standards and requirements. These are not the only possible benefits, however. Organisations should consider looking beyond the immediately obvious outcomes of investing in implementation and maintenance of a comprehensive infection control program, which have the potential to include (Dunagan et al, 2002):

- helping to eliminate waste through:
 - wise product selection
 - · appropriate use of expensive technology
 - · sensible policies and procedures
- protecting employees from injury
- enhancing the image of the organisation for potential patients and staff recruitment
- creating an effective collaboration between clinicians and administration
- mitigating the threat of highly resistant and deadly pathogens.

Consider also, the potential for improved patient engagement as patient's become educated about their role and contribution in reducing the spread of infections, and the flow on effect this could have. Teamwork can be enhanced if teams have a clear and shared goal and purpose – in this case the reduction of infections in health care. Effective teams have the potential to improve patient outcomes. If team working can be facilitated through a guideline implementation program, this learning may be spread to other patient safety initiatives. There is also the opportunity for enhanced staff engagement through staff receiving feedback on positive patient outcomes, reduced incidence of occupational exposures and sick leave due to infection transmission amongst staff, and staff having a sense that they are directly responsible for having achieved an improvement in patient care. Staff engagement has been shown to be enhanced by these factors.

Such outcomes are not likely to be seen in the short term. For this reason the OSSIE toolkit incorporates processes for teams to monitor progress and celebrate small wins and milestones through the implementation project.

Helpful hint: Meet your business manager

The business manager of the facility may be able to help in the development of the business case.

Such processes should ultimately be built into the routine work and culture of the facility, to promote a safety culture and ensure that staff do not lose sight of the of the core goal of reducing HAI, and to enable improvements to be sustained beyond the initial implementation of the AICG.

A business case template and link to a guide to help prepare a business case for infection prevention and control is provided at the end of the chapter.

v. The importance of executive leadership

This guide is designed primarily for use by an individual or team working to implement the AICG. However, the significance of executive leadership in providing the vision for patient safety, and the structure and support mechanisms for implementation cannot be overstated. There is much that the executive leaders of the facility can do to enable sustainable improvement in infection prevention and control. A checklist to help guide executive leaders to provide leadership for improving infection control and prevention is included in the Tools section at the end of the chapter.

Case study: Executive leadership for infection prevention and control

While the project team will be responsible for the *process* of implementation, there is much that organisational leaders and executive can do to demonstrate their leadership and commitment to patient safety and reducing and preventing Health Care Associated Infections. In the UK, as part of the Clean Safe Hands program, it is recommended that Directors of Infection Prevention and Control have specific responsibilities that enable them to visibly demonstrate their support and leadership in relation to Infection Prevention and Control. These principles could be adapted for the Australian context, and might include:

- report directly to the chief executive or equivalent and the senior executive committee or board
- oversee local control of infection policies and their implementation
- be responsible for the organisation's Infection Control Committee
- be a full member of the infection control committee and regularly attend meetings of the committee
- have the authority to challenge inappropriate hygiene control practices
- assess the impact of all existing and new policies on HAI and make recommendations for change
- be an integral member of the organisation's clinical governance and patient safety teams and structures
- produce an annual report on the organisation's infection prevention and control activities, current HAI rates, and release it publicly.



vi. Tools and techniques

vi.i Business case template

Adapted from: Australian Government, Department of Health and Ageing, Departmental Business Case Template, April 2010

This template may be of assistance to those wishing to prepare a business case to support the infection prevention and control program at a facility. The template is not prescriptive or exact – individuals should check whether there are specific processes or guidance for preparation of a business case within their own facility.

To assist preparation of a business case, readers are referred to the APIC "Guide to the Prevention of Mediastinitis Surgical Site Infections Following Cardiac Surgery" (APIC, 2008) (http://www.apic.org/Content/NavigationMenu/PracticeGuidance/APICEliminationGuides/Mediastinitis_logo.pdf) which provides comprehensive guidance on determining costs and benefits associated with infection prevention initiatives.

Business Case Template

1. Executive summary

This section should be completed after the rest of the document is finished and should be a succinct summary of all your major points; it should not contain any information that is not elsewhere in the document. Keep it concise.

1.1 Overview

There is no need to include an extensive introduction or background in this section, just a précis of the introduction, background, problem statement and objectives that are in the main body of the document.

Be sure to include information about the priority and importance of the project in the context of the Strategic Objectives of the facility/ organisation, and the benefits to the facility/ organisation of the project.

1.2 Options appraisal

Provide a brief summary of the options considered and the reasons for choosing the preferred option.

1.3 Costs and benefits

Summarise the main points and include sufficient detail so that your executive or approval committee can use this page as a ready reference.

2. Introduction

Project Name: Project Sponsor/ Executive: Project Manager:

2.1 Background

Provide a brief history of how the project came into being, and from where the authority and drive for it comes. Include background on the nature of the work conducted that explains why you want to take on the project.

2.2 Problem statement

Summarise clearly here the problem that the project is aiming to address. This should highlight any previous analyses of the problem that have been done and where the impetus for change exists; that is, where is the 'pain' and who is feeling it; and, if necessary, why your area or the department should be doing something about this and what are the likely consequences of not addressing the problem.

2.3 Strategic objectives

"A common cause of project failure is the lack of a clear link between the project and the organisation's key strategic priorities, including agreed measures of success."

Business Case Template

Provide the high-level, strategic objectives of the facility/organisation within which this project sits, or the overall objective of your division or department.

After a brief pre-amble, you may put this in tabular form, e.g.:

Strategic objectives	Measure
E.g. To ensure the provision of safe, effective and efficient patient care	E.g. Adverse events

2.4 Project objectives

The project objectives highlight the products that are to be produced as a result of this project.

2.5 Related projects

Briefly state any other projects that are being undertaken that relate to the same strategic.

Options comparison

Be sure to highlight whether there are interdependencies between this project and any of those projects.

3. Options analysis

You may be required to consider more than one option to achieve improvements in IP&C, and this section should contain an analysis of the options plus the 'do-nothing' option. Insert a description of each option considered, then include full details and analysis of all options in an Appendix.

- 1. Option 1 do nothing ...
- 2. Option 2 -
- 3. Option 3 –

The following table summarises the comparisons of all options considered.

3.1 Preferred option

State the preferred option and why.

	Option 1 – <short description=""></short>	Option 2 – <short description=""></short>	Option 3 – <short description=""></short>
Benefits Benefits of each option (see APIC guide for advice on this).			
Disadvantages List the negative consequences of each option.			
Timescale Over what period will the costs be incurred and over what period will the benefits occur.			
Costs Summarise the costs and supporting assumptions associated with each option, including ongoing costs.			
Major Risks Provide a summary of the aggregated risk ratings, highlighting the major risks that will have an effect on the business objectives and benefits.			

Business Case Template

4. Procurement

State what procurement action would need to be undertaken. Include an indicative timetable and justification for the proposed approach.

5. Project strategy

Key milestones and deliverables

The key milestones will be presented in a table, as follows:

Event / Milestone	Deliverable	Date (or elapsed time from start of project)

6. Costs – benefit analysis

Refer to the advice in the APIC guide to prepare this.

Outline how calculations for savings and benefits have been made – include attributable costs.

7. Project management and control

7.1 Business case

Write a brief statement on how this document will be kept up to date during the course of the project; that is, review points particularly where the expected scope, costs, benefits and savings figures are re-adjusted or confirmed. How will different versions be identified?

7.2 Governance

This section outlines the project management structure that you will use to manage the project Make sure you cover at least the following points:

- Who will oversee progress (E.g. committee, executive sponsor, divisional head)
- Who will manage the project?
- How will the facility executive be kept informed of progress?

7.3 Risk management

Check the organisational risk assessment tools and policy to undertake a risk assessment of each of the options

7.4 Progress monitoring

Enter here the mechanisms that you will establish to monitor and compare actual achievements against your baseline plan.

vi.ii Tool for executive leaders and Department Heads

Checklist to support implementation

Chie	f Executive Officers/directorate heads/management group	Yes/No
• Ha	ave a performance agreement that includes infection prevention and control (IP&C) atcomes as a key performance indicator	
• Er	ndorse the inclusion of specific roles and responsibilities for relevant staff	
• Er	nsure policies are reviewed and updated to reflect guideline recommendations uild in systems for review, audit, monitoring	
• De	evelop a communication plan to ensure all staff know about the AICG	
• Es at co Sa	stablish reporting systems for infection control – have infection rates reported management group meetings as a single agenda item; incorporate through proprate governance through requiring regular reporting to Management Executive, afety Council, Board (AHS)	
• Er qu	nsure the IP&C committee includes those with knowledge of the process (e.g. ICP, ality improvement, infectious diseases, pharmacy)	
• Ha	ave a member of the management group sit on the IP&C committee	
• Ide pra	entify leaders from all disciplines and departments to "champion" a culture of safe actice through infection reduction	
• Ind en	clude infection control guidelines in clinical governance systems and processes by ngaging the involvement of local clinical councils	
• De	evelop systems to recognise and reward success in IP&C	
• Er	nsure updates about IP&C are provided regularly to staff	
• As	sk patients for feedback about their observations and health care experience, with specific emphasis on infection control practice and culture	
• De da	evelop processes for individual clinicians to receive feedback on infection control ata/measures relevant to their practice	
• Me	eet clinicians in their teams and request them to include IP&C on their team eeting agendas – and report on infection rates	
Depa	artment Heads	Yes/No
• W	alk-a-round to visibly observe, reward and help managers to implement	
• De	eal directly with staff who consistently do not comply with recommended practice	
• Er	nable staff to attend education programs – include new and substantive staff embers	
• Inc	clude IP&C as a single agenda item on departmental meetings	
• Re	egularly monitor performance	
• Er	ncourage patient/carer feedback about IP&C within the department	
• Er • Pr – I no	ncourage patient/carer feedback about IP&C within the department romote reporting about IP&C as part of accepted culture for incident management help staff to see that infection near misses and incidents can be prevented and are of a routine part of health care	
 Er Pr -1 no Pu 	ncourage patient/carer feedback about IP&C within the department romote reporting about IP&C as part of accepted culture for incident management help staff to see that infection near misses and incidents can be prevented and are of a routine part of health care ublish results of audits and other relevant data on a frequent and regular basis	

Phase one

= Organisational leadership

To ensure smooth implementation of the AICG organisational leaders will need to bring together a team of people who can provide day to day leadership of the project – a project team. Once a project team is established, an assessment of current infection control practice will need to be undertaken, along with an assessment of barriers and facilitators to implementation, and an This chapter of the toolkit will help the reader to:

- consider resources for implementation
- establish a project implementation team
- assess current infection control practices
 against the guidelines
- identify local barriers and enablers to implementing the guidelines
- assess environmental readiness for change.

O=Organisational leadership



Link to the AICG

This Chapter should be read and considered in conjunction with Part C of the AICG, which outlines responsibilities of managers in health care facilities, including governance structures that support the implementation, monitoring and reporting of effective work practices. While the emphasis is on responsibility of managers, the implementation team should give consideration to the issues raised in that part of the AICG, and the implications for implementation.

1.1 Determine resources

Leading an implementation program will have challenges that are part of leading any change initiative. The implementation process will require many teams and individuals to think differently about their work, reflect on their current practice and processes, and in many cases, change behaviours that may have been part of the "way things are done" for some time.

The organisational leadership phase of OSSIE requires that there be an equal focus on demonstrating clear leadership, as well as to appropriate resource allocation.

The AICG very clearly emphasise that

Addressing infection prevention and control requires a facility wide program and is everybody's responsibility.

The allocation of appropriate time and resources is emphasised in a range of literature relating to change management in organisations and guideline implementation. Organisational leaders will need to consider the resources that will be allocated to implementation, regardless of the size of the facility. In writing about lessons learned in clinical process redesign, McGrath and colleagues (2008) emphasise the need for executives to set the criteria for solutions development in advance, and state what resources are available. Being clear at the outset will enable the project team to plan implementation strategies in accordance with available resources.

Resources fall into the category of human, fiscal and physical requirements – and each impact on the other. In order to fully see change in practice, time will be one of the most significant resources required. If appropriate human and fiscal resources are not allocated to implementation, then the time needed for implementation will be longer. A worksheet to enable teams to determine resources is included in the tools section of this chapter.

1.2 Establish a project team

Given the complexity of health care a team approach to implementation is recommended. Responsibilities of the project team will include:

- identifying, consulting, and engaging key stakeholders
- assessing organisational readiness
- assessing barriers and enablers
- assessing current infection control practice to identify priority areas for implementation
- working with executive leaders to address barriers
- providing guidance, direction and support to the teams at the point of care
- negotiating appropriate allocation of resources (time, staff and finance)
- implementation including piloting and spread
- evaluating process and outcome measures on an ongoing basis results
- working with the executive leaders to monitor progress
- report issues in implementation to executive
- working with the executive leaders to sustain and spread improvements.

Who should be on the project team?

Remember to think about the need for representation from all departments in the facility - for example clerical staff, staff from hotel and cleaning services – these staff can provide valuable insights into processes such as patient flow, and ideas about implementation specific to their workplace context.

Grimshaw et al, 2004

The team will require sufficient representation to enable an understanding of the clinical environment, and some power and authority to enable implementation through all levels of the organisation. In larger facilities, teams may need to be established at both strategic and point-of-care levels. In all cases, a member of the executive leadership of the facility should be part of the implementation team, in addition to the infection control nurse practitioner/ professional (ICP) and clinicians, staff from hotel and cleaning services, and a patient or carer. The ICP can also provide day to day leadership, as can opinion leaders and champions from a range of departments and units. The inclusion of a team member with expertise in guality improvement processes and methodologies should also be considered, as they will likely have experience with tools and processes related to problem identification and improvement practice, such as root cause analysis processes.

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sons learned: d Hygiene Australia (HHA)

Who were the people most critical to program success of the HHA program overall, and in individual settings?

"Jurisdictional representatives/Chief Medical Officers. Our overwhelming experience is that the more supportive these individuals are the greater uptake and overall success of the program at a jurisdictional level. The same can be said for executive staff within individual facilities – when key clinicians have not been strongly supportive direction can be provided by the Chief Executive. There are some clinical staff that are key to success, but we know if they are not initially supportive it is not necessarily a lost cause if there is active support from the Chief Executive."

Phil Russo, National Program Manager, HHA

The OSSIE framework supports the need for appropriate team representation. A suggested team membership is provided in Table 1.1, however this may need to be adapted according to the size and complexity of the facility (see Table 1.2).

Position	Role on team
Project lead	Person interested and /or experienced in infection prevention and control. To coordinate and be a reference point for team members – NOT solely responsible for implementation
Patient/consumer	Bring an understanding of patient experience and perspective. Can provide advice on ways to engage patients and carers in implementation
Infection control practitioner/ professional	Provide expert advice in relation to specific infection control practice, current policies and processes, sources of data for baseline assessment of practice, evaluation and ongoing monitoring of improvement
Quality/safety	Provide advice regarding processes for audit and measure, quality improvement methodologies, accreditation requirements, and project management
Champions/opinion leaders	Bring an understanding of the environment and have established working relationships with staff. Role is to support staff engagement and empowerment. Should include champions from all disciplines – allied health, nursing, medicine, cleaning services, catering services, and clerical staff
Senior executive	Guide the team through organisational policy and establish organisational support

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Table 1.2 Examples of teams in different facilities:

Tertiary referral hospital or large private hospital: Project team includes broad representation from the areas indicated in Table One, as well as seeks local leadership teams from individual divisions – and potentially individual units.

Rural hospital and community health services – 70 beds: Project team includes senior manager, ICP and Quality Manager, and medical, nursing and allied health rep. The committee seeks local leadership teams from individual departments – community health, ICU/emergency/ obstetrics, and works with each of these groups.

Day surgery centre: Project team includes facility manager, a representative from each department within facility, and VMO representatives.

1.2.1 A note on patient engagement

Having a **patient representative** on the project team can help a facility to understand the role of patients in health care improvement work and safety initiatives, and enable the leadership team to model a patient centred approach to patient safety and infection control practice. They will need appropriate support and assistance regarding their role and responsibilities on the team, and in some cases may require education specifically tailored to their needs. However, the time invested in facilitating patient engagement can ultimately be of great value to the infection prevention and control program and guideline implementation. Patients and their carers can provide insight into a range of issues, including measures to consider when assessing existing infection control practice and organisational readiness for change, ways to approach and educate patients and families, and facility design from a patient perspective.

Engaging patients – is it *for* the patient or *with* the patient?

Engagement of patients and carers is essential to patient safety, but although there is evidence to support consumer engagement, actions are often more **for** the consumer than **with** the consumer.

Leape et al, 2009

Patients and carers may also be able to promote the goals of the implementation program, by sharing their stories and experiences about HAI, and being involved in staff and patient education initiatives. Internationally, the role and significance of

patients and carers in relation to improving patient safety and as a member of the health care team is gaining increased recognition. This is evidenced in part by the growing number of organisations that have been established to empower patients to become more involved and share accountability for their own care, such as The World Health Organisation group Patients for Patient Safety (www.WHO.int/ patientsafety). Change is more likely to be achieved and sustained when the role of patients as partners in their health care is strengthened, and where there is a shared understanding of the role of patients, healthcare workers and organisations in achieving the best possible outcomes (ACSQHC 2008, cited in the AICG).

Link to the AICG

Specific guidance on providing patient centred care is highlighted throughout The AICG, in text boxes, in the "Putting it into practice" section at the end of each Chapter in Part B, and in each chapter of Part C.

1.2.2 The need for an effective team

Teams that work well together are more effective and more innovative (Borrill et al, 2001). The following factors tend to enhance teams in health care (Borrill et al, 2001):

- Clear and shared goals and vision
- Strong leadership
- Members understand their role and responsibilities
- Effective communication and decision making processes

- Mutual respect
- Individual accountability for specific actions
- Shared accountability for team outcomes.

Did you know?

The Australian Patient Safety Network has been formed to carry out actions developed by participants at the Australian Patients for Patient Safety Workshop held in Perth 2009. Australia's Call to Action to improve patient safety in Australia can be found on the website of the Health Consumer's Council in Perth at **www.hconc.org.au**, click on Patient for Patient Safety Workshop.

In what ways can the team work with patients in the process of implementing the AICG?

If the team have not worked together before, individual members will have different experiences and approaches to working as part of a multidisciplinary team. Some aspects of implementation may be challenging, and from time to time differences of opinion may arise, or there may be issues related to differences in perceived hierarchy and status, with the potential that some less experienced team members may feel unable to fully contribute to the work of the team. This can be particularly relevant to staff from non-clinical disciplines and patient representatives.

Helpful hint: Team ways of working

It is a good idea for a newly formed project team to take some time at the beginning of their work together to get to know one another, establish some simple ways of working that will help guide their implementation work, and gain consensus about the goal of the project. Tools and techniques to assist teams in their work together are included at the end of the chapter.

1.3 Identify stakeholders, opinion leaders and champions

Essential to leading change is the engagement of stakeholders at all levels of the organisation. Once the project team is established, they will need to begin to identify key stakeholders both internal and external to the facility that may assist or impede implementation. Stakeholders are individuals or groups who are interested in or who may be affected by an issue. Detailed strategies to address stakeholder engagement are provided in phase three of this toolkit; however it is important that project teams begin working with stakeholders early in the project, as this will increase their involvement and support of practice change later on. Stakeholders can be involved in each of the steps in the organisational leadership phase, and provide important and useful insights about the best methods for learning about the organisational context.

1.4 Applying the guidelines to the local context

The AICG provide basis for healthcare workers and healthcare facilities to develop detailed protocols and processes for infection control that apply to their specific situation. As well as a review of policies and procedures, applying the guidelines to the local context may include a review of signage, and orientation and education programs. The team should also undertake a risk assessment to identify the level of risk within the facility, in keeping with the risk management approach recommended in the AICG. This will also provide the team with a means of determining priorities for guideline implementation.

J Link to the AICG

The AICG offer some specific advice to facilities about risk management basics, in section A.

1.5 Assess the organisational context

There is a need to assess the environment in which change is to occur in order to determine and prioritise implementation strategies. An assessment of the organisational context for implementation will ideally encompass strategies to:

- assess current infection control practice against the guideline recommendations
- identify barriers and facilitators to implementation
- evaluate readiness for implementation.

Helpful hint: Target areas for improvement

It can be useful to identify a specific target area for improvement, rather than think about implementing all 15 recommendations in one go. You may want to begin with those easiest to implement, or those where there are significant gaps between current and recommended practice. Suggestions of focussed areas for improvement include hand hygiene, or improving compliance with cleaning procedures, or vaccination rates.

1.5.1 Assessing current practice

The organisation should not reinvent the wheel or implement change purely for the sake of change. Within some areas of your facility, there may be excellent examples of infection control practice that are already occurring and that are consistent with current best practice recommendations. These should be noted and celebrated. In other cases, it may be that some processes need only slight adaptation in order to meet the guideline recommendations. The main point of assessing current practice is to learn about the way infection control is practiced, identify and celebrate good practice, and identify areas that may need to be improved or changed. This can also be described as a gap analysis – where an analysis of the current

status is undertaken, the desired future is described using the evidence based guidelines, a statement describing the gap characteristics between present and future is developed, and then work is undertaken to determine the actions needed to close the gap (Soule, 2002). A template for undertaking a baseline gap analysis is provided in the tools section at the end of this chapter, along with links to other resources to support baseline assessment.

Lessons learned: Assessing current practice

I think one of the most important lessons I have learned is to look beyond the data and ask why. When we conduct hand hygiene audits we need to look not only at who is performing or not performing hand hygiene but also why. What makes one person do it and another not? Counting in and of itself will not change behaviour but an understanding of what contributes to the behaviour is something that can potentially be manipulated to bring about the change we seek. Furthermore, we need to step out of ourselves and take our infection control knowledge with us as we step into the shoes of those we are trying to influence. What are their practice imperatives, and what makes them so? Where does infection control sit within the specific practice context? Answers to these questions will allow us to appropriately target education and other initiatives that will bring about behavioural change that is culturally based and therefore sustainable.

Deborough MacBeth, ADON, Infection Control Gold Coast Health Service District

1.5.2 Identifying barriers and facilitators

Barriers to implementation can exist at a number of levels – the innovation itself (accessibility of the guideline), the individual (negative beliefs about change) the organisation (absence of adequate resources), and the broader environment (lack of professional organisation support). It is important to gain a good understanding of the barriers to change in order to develop effective implementation strategies. Approaches to assessing barriers will depend on the resources available and the size of the facility, and could include (NICS, 2006):

- brainstorming
- interviews
- focus groups
- observation
- surveys.

A detailed explanation of all these methods is beyond the scope of this toolkit. However an excellent guide to identifying barriers titled **"Identifying barriers to evidence uptake" has been developed by the National Institute for Clinical Studies (2006)**. The guide provides a detailed summary of each of the above mentioned processes, and gives tips for how to undertake an analysis of barriers using these techniques. More tools and resources are listed under "Tools and Techniques" at the end of this chapter including the NICS barrier guide and template.

1.5.3 Environmental readiness

An organisation or facility may be agreeable to undertaking change or improvement work, but may not be willing to assimilate a particular innovation or idea (Greenhalgh et al, 2004). Similarly, an organisation may be enthusiastic initially, but the environment may not be able to sustain change over time. Thinking and planning for sustainability at the commencement of a project is important if positive results from the initial phase are to be sustained in the long term.

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Case study: Barriers to implementing change

One rural health service district, employing more than 800 staff across 17 facilities, decided to implement the National Hand Hygiene Initiative's (NHHI) Five Moments for Hand Hygiene. The following barriers have been encountered:

- Knowledge and understanding Because HAI is a relatively infrequent event in small facilities (and also difficult to identify) staff do not see the importance of hand hygiene in reducing transmission of pathogenic microorganisms.
- Education and training Only 4 of 21 participants 'passed' the multiple choice questionnaire and the Hand Hygiene Australia DVD Quiz which were administered at the conclusion of the workshop (the required pass mark was set at \geq 90%). 6 received between 80% and 89%, and the remaining participants achieving <80%. Because of the low pass rate, the Clinical Nurse Consultant Infection Control (CNC IC) has had to provide continuing support both by phone and in person to assist auditors with meeting the minimum standard. Some are still struggling to understand the five moments particularly in relation to capturing these as part of auditing.
- Resources The additional training and support needed for local auditors has significantly impacted on other responsibilities of the ICP position – not all facilities were able to send representatives to the training workshop, subsequent one-on-one training needs to be provided to ensure all facilities have validated auditors. Since the workshop, auditing is still to commence in the majority of facilities. This is in part due to the need to upskill auditors (and distances the CNC IC needs to travel to provide this training), but also due to competing priorities by portfolio holders.

- Executive leadership Initial support was obtained from the District Executive Committee for the program including the nomination of four executive sponsors or champions. Although details of their role and responsibilities have been provided, the subsequent involvement of these 'sponsors' has been negligible.
- Attitude to change The district implemented the requirement to have alcohol-based hand hygiene product at the point of care (i.e. fixed to the base of the patient's bed). Recent audits have identified that the gel has been removed in a number of facilities and often relocated to inappropriate locations. There is some reluctance to place the product at the patient bedside due to concerns of safety and accidental ingestion (particularly by confused patients and children).

In light of these barriers, the IC provides the following advice:

- **Organisational leadership** District Executive sponsors need to commit and remain engaged and effective in their role.
- Allocation of appropriate resources

 It would have been useful to have
 a dedicated program coordinator for
 initial implementation of the program
 (as opposed to the CNC IC undertaking
 the role as part of other responsibilities).
 Once implemented the program could
 be sustained by the CNC IC. Funding to
 support dedicated hours for local staff to
 audit hand hygiene compliance, or for a
 second infection control nursing position,
 should also be considered.

- Engaging stakeholders The CNC IC and executive need to work together to ensure local representatives/auditors remain engaged and committed to the program.
- Communication Consider other means of communication apart from email to deliver messages as this may not be the best method to keep staff engaged.
- Think about the bigger picture Broader issues related to infection control need to be addressed as part of the program.

A context that is receptive to change will have certain components that include strong leadership, clear vision, good management relations, and effective data capture systems (Greenhalgh et al, 2004). These same components will increase the likelihood that implementation efforts will be successful and sustained. A template for assessing environmental readiness for change, that addresses some of these system issues, has been included in the Tools section at the end of this chapter. In addition, tools to assess elements related to sustainability and spread of innovations can be used by the leadership teams to provide a further indication of the likelihood that change will be achievable. Links to documents and resources that describe sustainability are provided under 'Tools and Techniques'. In some cases, implementation strategies will need to be adapted to reflect the environmental readiness for change. For example, if the staff do not believe in the value of patient involvement, consideration will need to be given as to how this might be able to be overcome.

1.6 Tools and techniques

1.6.1 Resources worksheet

Adapted from Registered Nurses Association of Ontario (RNAO, 2002)

Toolkit: Implementation of Clinical Practice Guidelines – budget worksheet (© RNAO)

Phase	Resources required	Est. time/cost
Leadership	Examples:	
Establishing teams	• time for meetings,	
Educational/awareness raising	meeting venue/room,	
against the guidelines	staff release for education, to undertake audits, observations and surveys	
Environmental readiness		
Solutions and strategies	Examples:	
Identifying tools, solutions and	meeting time	
brainstorming strategies	 research time to identify tools 	
	• time to develop tools	
Stakeholders	Examples:	
Identification, communication	focus groups	
and engagement activities	• staff/departmental meetings	
	• seminars	
Implementation	Examples:	
Promotion and behaviour changing activities	 time to develop resources – Poster production, Presentations at key meetings, newsletter, posters on each unit 	
	 staff replacement to attend education and meetings 	
	 data entry, analysis and report 	
Evaluation stage	Examples:	
Data generation, analysis/	• data entry and analysis, interviews	
review and report production	 incentives to reward progress 	
	• stationery costs (printing, photocopying)	
	• reporting	

1.6.2 Environmental readiness assessment worksheet

Adapted from Registered Nurses Association of Ontario (RNAO, 2002)

Toolkit: *Implementation of Clinical Practice Guidelines* – Environmental Readiness Assessment Worksheet (© RNAO)

Element	Question	Facilitators	Barriers	Actions
Structure	To what extent does decision- making occur in a decentralised manner?			
	Is there enough staff to support the change process?			
Workplace Culture	To what extent are the guideline recommendations consistent with the values, attitudes and beliefs of the practice environment?			
	To what degree does the culture support change and value evidence?			
Communication	Are there adequate (formal and informal) communication systems to support information exchange relative to implementation?			
Leadership	To what extent do the leaders within the practice environment support (both visibly and behind the scenes) implementation?			
Knowledge, skills and attitudes of	Do the staff have the necessary knowledge and skills?			
target group	Which group is most open to change and new ideas?			
	To what extent are staff motivated to implement the guidelines?			
Commitment to quality	Do quality improvement processes and systems exist to support measurement of progress and results of implementation?			
Availability of resources	Are the necessary human, physical and financial resources available to support implementation?			
Interdisciplinary relations	Are there positive relationships and trust between the disciplines that will be involved or affected by implementation?			

1.6.3 Team ways of working

Sample ways of working

Adapted from NSW Health Easy Guide to CPI, 2002

*can also be known as ground rules or team norms

Example:

- All members' opinions are equal
- Team members speak freely all ideas will be listened to
- One person speaks at a time
- We will provide feedback openly and constructively
- There are no right or wrong answers
- Arrive and finish on time
- Discuss and analyse problems and issues not people
- Members will respect the privacy of team discussions
- All team members share responsibility for the work of the team

Checklist for meeting

At first meeting

- ✓ Establish membership (refer Table 1.1, page 16)
- ✓ Nominate a chairperson
- ✓ Nominate or engage a meeting recorder (if not from the membership)
- ✓ Develop (or utilise organisation's) templates for agenda and minutes
- ✓ Develop terms of reference including quorum
- ✓ Determine ways of working (ground rules)
- ✓ Establish roles and responsibilities of members
- ✓ Establish meeting dates and times (allow members to diarise dates early)
- ✓ Determine who will circulate minutes/meeting notes

Subsequent meetings

- ✓ Agenda prepared and circulated (2 weeks before)
- ✓ Minutes/meeting notes from last meeting circulated (at least 2 weeks before)
- \checkmark Identify what the main objectives of the meeting are at the beginning
- ✓ Revise ways of working
- ✓ Revise progress and summarise actions at half way point and again at meeting close
- ✓ Regularly ask how team members feel about the meeting structure, processes and outcomes

1.6.4 Baseline assessment checklist for the AICG recommendations

Part 1:

Baseline assessment checklist – AICG recommendations

Completed by:		of pletion:
AICG Recommendation	Y/N	Comments/Actions
Routine hand hygiene Hand hygiene must be performed before and after every episode of patient contact – includes the 5 moments. Hand hygiene must also be performed after the removal of gloves.		
Examples of evidence: Does the organisation have a policy that is consistent with the AICG recommendation? What do recent Hand Hygiene audit results show? What hand hygiene education is provided?		
 Choice of product for routine hand hygiene practices All routine hand hygiene practices in healthcare settings, use alcohol-based hand rubs that: contain between 60% and 80% v/v ethanol or equivalent; meet the requirements of EN1500. 		
Choice of hand hygiene product when hands are visibly soiled If hands are visibly soiled, hand hygiene should be performed using soap and water.		
Examples of evidence: Does the organisation have a policy that is consistent with the AICG recommendation? What do recent Hand Hygiene audit results show? What hand hygiene education is provided?		
Snapshot survey of staff – what hand hygiene product do you use if your hands are visibly soiled?		
 Hand hygiene for Clostridium difficile and non-enveloped viruses when gloves are worn hand hygiene should be performed using alcoholbased hand rubs if gloves have not been used or hands are visibly contaminated soap and water should be used for hand hygiene when Clostridium difficile is suspected. after washing, hands should be dried thoroughly with single-use towels. when non-enveloped viruses such as norovirus are known or suspected to be present and gloves have not been worn soap and water should be used for hand hygiene. Examples of evidence: Does the organisation have a policy that is consistent with the AICG recommendation? 		
What education is provided in relation to hand hygiene for C. diffile?		

AICG Recommendation	Y/N	Comments/Actions
 Wearing of aprons/gowns Aprons or gowns should be appropriate to the task being undertaken. They should be: worn for a single procedure or episode of patient care and removed in the area where the episode of care takes place. 		
Examples of evidence:		
Does the organisation have a policy that is consistent with the AICG recommendation?		
What education is provided in relation to hand hygiene for C. diffile?		
Snapshot survey of staff – under what circumstances would you wear an apron/ gown?		
Use of face and protective eyewear for procedures		
A surgical mask and protective eyewear must be worn during procedures that generate splashes or sprays of blood, body substances, secretions or excretions into the face and eyes.		
Examples of evidence:		
Does the organisation have a policy that is consistent with the AICG recommendation?		
How is this policy communicated to staff?		
What education is provided in relation to the use of face and protective eyewear?		
Snapshot survey of staff – under what circumstances would you wear face and protective eyewear for procedures?		
Audit mask/eyewear use over a specific timeframe.		
Wearing of gloves		
Gloves must be worn as a single-use item for:		
each invasive procedure;		
 contact with sterile sites and non-intact skin or mucous membranes 		
 any activity that has been assessed as carrying a risk of exposure to blood, body substances, secretions and excretions. 		
Gloves must be changed between patients and after every episode of individual patient care.		
Sterile gloves		
Sterile gloves must be used for aseptic procedures and contact with sterile sites.		
Examples of evidence:		
Does the organisation have a policy consistent with the AICG recommendation?		
How is this policy communicated to staff?		
What education is provided in relation to wearing gloves?		
Under what circumstances would you use sterile gloves?		
Audit availability of gloves – single use and sterile		

AICG Recommendation	Y/N	Comments/Actions
Safe handling of sharps		
Sharps must not be passed directly from hand to hand and handling should be kept to a minimum.		
Needles must not be recapped, bent or broken after use.		
Disposal of single-use sharps		
The person who has used the single-use sharp must be responsible for its immediate safe disposal.		
Used disposable sharps must be discarded into an approved sharps container at the point-of-use.		
Sharps containers must not be filled above the mark that indicates the bin is three-quarters full.		
Examples of evidence:		
Does the organisation have a policy that is consistent with the AICG recommendation?		
How is this policy communicated to staff?		
What education is provided in relation to sharps handling/disposal?		
What do incident report trends over the last 12 months show in relation to incidents involving sharps handling and disposal?		
Audit sharps bins – are they over filled? Are approved bins in use?		
Routine cleaning of surfaces		
Clean frequently touched surfaces with detergent solution at least daily, and when visibly soiled and after every known contamination.		
Clean general surfaces and fittings when visibly soiled and immediately after spillage.		
Examples of evidence:		
Does the organisation have a policy that is consistent with the AICG recommendation?		
What education is provided in relation to routine cleaning of surfaces?		
What do incident report trends over the last 12 months show in relation to cleaning audits undertaken and reported?		
Pt satisfaction surveys/complaints trends – check results in relation to satisfaction with cleaning/environment		
Ask staff – what is the procedure for routine cleaning?		
Cleaning of shared clinical equipment		
Clean touched surfaces of shared clinical equipment between patient uses, with detergent solution.		
Exceptions to this should be justified by risk assessment.		
Examples of evidence:		
Does the organisation have a policy that is consistent with the AICG recommendation?		
What education is provided in relation to cleaning shared clinical equipment?		
What do incident report trends over the last 12 months show in relation to cleaning of shared clinical equipment?		
Ask staff – what is the procedure for cleaning shared clinical equipment?		

AICG Recommendation	Y/N	Comments/Actions
 Surface barriers Use surface barriers to protect clinical surfaces (including equipment) that are: touched frequently with gloved hands during the delivery of patient care; likely to become contaminated with blood/body substances; or difficult to clean. Exceptions to this should be justified by risk assessment. <i>Examples of evidence:</i> Does the organisation of a policy that is consistent with the AICG recommendation? What education is provided in relation to surface barriers? Snapshot survey of staff – under what circumstances would you use surface barriers? 		
Site decontamination after spills of blood or other potentially infectious materials		
Spills of blood or other potentially infectious materials should be promptly cleaned as follows:		
 wear utility gloves and other PPE appropriate to the task; 		
 confine and contain spill, clean visible matter with disposable absorbent material and discard the used cleaning materials in the appropriate waste container; 		
 clean the spill area with a cloth or paper towels using detergent solution. 		
Use of chemical disinfectants such as sodium hypochlorite should be based on assessment of risk of transmission of infectious agents from that spill.		
Examples of evidence:		
Does the organisation of a policy that is consistent with the AICG recommendation?		
What education is provided in relation to spills of blood/potentially infectious material?		
Snapshot survey of staff – how would you manage a spill?		
Check incident trends/complaints relating to spills.		
Implementation of contact precautions		
In addition to standard precautions, implement contact precautions in the presence of known or suspected infectious agents that are spread by direct/ indirect contact with the patient/patient's environment.		
Hand hygiene and personal protective equipment to prevent contact transmission		
Utilised appropriately when working with patients who require contact precautions including:		
 perform hand hygiene; 		
 put on gloves and gown upon entry to the patient-care area; 		
 ensure that clothing and skin do not contact potentially contaminated environmental surfaces; and 		
 remove gown and gloves and perform hand hygiene before leaving the patient care area. 		

AICG Recommendation	Y/N	Comments/Actions
Patient-care equipment for patients on contact precautions		
Use patient-dedicated equipment or single-use non-critical patient-care equipment.		
If common use of equipment for multiple patients is unavoidable, clean the equipment and allow it to dry before use on another patient.		
Examples of evidence:		
Does the organisation have a policy consistent with the AICG recommendation?		
What education is provided in relation to contact precautions?		
What do incident trends over the last 12 months show in relation to incidents involving contact precautions?		
Snapshot survey of staff – what do you understand by the term contact precautions? When would you use them?		
Attendance records at education – % of staff educated		
Check incident trends/complaints relating to contact precautions.		
Implementation of droplet precautions		
In addition to standard precautions, implement droplet precautions for patients known or suspected to be infected with agents transmitted by respiratory droplets that are generated by a patient when coughing, sneezing or talking.		
Personal protective equipment to prevent droplet transmission		
When entering the patient-care environment, put on a surgical mask.		
Placement of patients requiring droplet precautions		
Place patients who require droplet precautions in single-patient room.		
Exceptions to this should be justified by risk assessment		
Examples of evidence:		
Does the organisation have a policy consistent with the AICG recommendation?		
What education is provided in relation to droplet precautions?		
What do incident trends over the last 12 months show in relation to incidents involving droplet precautions?		
Implementation of airborne precautions		
 In addition to standard precautions, implement airborne precautions for patients known/suspected to be infected with infectious agents transmitted person-to-person by the airborne route 		
Personal protective equipment to prevent airborne transmission		
Wear a correctly fitted P2 respirator when entering the patient-care area		
when an airborne-transmissible infectious agent is known or suspected to be present.		
Placement of patients requiring airborne precautions		
• Patients on airborne precautions should be placed in a negative pressure room or in a room from which the air does not circulate to other areas.		
• Exceptions to this should be justified by risk assessment.		
Examples of evidence:		
Does the organisation have a policy consistent with the AICG recommendation?		
What education is provided in relation to airborne precautions?		
What do incident trends over the last 12 months show in relation to incidents involving airborne precautions?		
Snapshot survey of staff – what do you understand by the term airborne precautions? When would you use them?		

AICG Recommendation	Y/N	Comments/Actions	
Implementation of core strategies in the control of MROs (MRSA, MRGN, VRE)			
Transmission-based precautions for all patients colonised or infected with a multi-resistant organism, including:			
 perform hand hygiene and putting on gloves and gowns before entering the patient-care area; 			
 using patient-dedicated or single-use non-critical patient-care equipment; 			
• using a single-patient room or, if unavailable, cohorting patients with the same strain of multi-resistant organism in designated patient-care areas; and			
 ensuring consistent cleaning and disinfection of surfaces in close proximity to the patient and those likely to be touched by the patient and healthcare workers. 			
Examples of evidence:			
Does the organisation have a policy consistent with the AICG recommendation?			
What education is provided in relation to the use of transmission based precautions for MROs?			
What do incident trends over the last 12 months show in relation to incidents / rates of infection?			

Part 2:

List key areas of partial or non-compliance, and utilise the risk management framework to allocate priority. This information will help the team to prioritise target areas for implementation and improvement.

Key area identified	Issue – e.g. knowledge/attitude/policy/ availability of product/skill	Risk rating

Key area identified	Issue – e.g. knowledge/attitude/policy/ availability of product/skill	Risk rating

1.6.5 Links to resources to assist baseline assessment

Tools to identify barriers

NICS Identifying barriers to evidence uptake (2006)

http://www.nhmrc.gov.au/nics/material_resources/resources/identifying_barriers.htm

Provides a comprehensive summary and description of a range of techniques to investigate barriers, and includes key steps, cost considerations, limitations of each, further resources.

Tools to assess readiness for spread and sustainability

NSW Clinical Excellence Commission Guide

http://www.cec.health.nsw.gov.au/pdf/spread-and-sustainability.pdf

NHS Guide

http://www.clean-safe-care.nhs.uk/index.php?pid=11#sustainabilitytool

Phase two

S = Solutions and strategies for implementation

The project team needs to determine the specific aims of implementation, and consider and choose tools that will support implementation and help staff to change and improve practice to enhance infection prevention and control in the facility.

This phase of OSSIE will enable teams to:

- set specific implementation goals and aims using the Model for Improvement
- consider potential implementation strategies
- choose solutions for improving infection control practice.

This phase should engage and involve as many stakeholders as possible from the clinical environment, to help promote a collaborative approach and ensure the solutions and strategies chosen are user-centred and appropriate to the local environment.

Stakeholder engagement will be considered in detail in the next chapter.

Action plan: How are you going?

Formed a project team with the right representation
Identified champions, opinion leaders and stakeholders
Considered project resources – time, cost, human
Assessed organisational readiness, clinical practice and barriers to change



S= Solutions and strategies for implementation

2.1 Setting goals using the Model for Improvement

The Model for Improvement provides a useful framework for thinking about the aims and specific objectives of guideline implementation, and will help teams to develop implementation strategies and solutions in keeping with aims.

Model for improvement

Adapted from:

www.ihi.org/IHI/Topics/Improvement/ImprovementMethods/ HowToImprove



The Model for Improvement begins with the team asking three key questions about the work the team will undertake, and then implementing "trial and learning" cycles to test the ideas and solutions implemented.

2.1.1 Question one – What do we want to achieve?

Consider the following:

Two facilities of similar size and case mix have undertaken an assessment of current infection control practices. Results are as follows:

Facility A: 350-bed acute care facility

- inconsistent compliance with hand hygiene
- 70% compliance with recommendations regarding insertion of central lines
- there has been at least one major incident of inappropriate and inadequate reprocessing of contaminated surgical instruments this year

 the incidence of new acquisition of MRSA (multi-resistant *S. aureus*) has increased three-fold in the last two months

Facility B: 70 bed multi-purpose facility

- clinician concern that the incidence of positive urine microbiology cultures associated with catheter use has increased
- Inconsistent practices of catheter use, insertion and maintenance
- 60% compliance with recommendations regarding use, insertion and maintenance of urinary catheters
- no formal policy requiring continual, usually daily, review of the necessity for continued catheterisation.

Faced with this information, where is each of these facilities going to start? Taking time to develop specific aims will help to focus your solutions and implementation strategies. Your overall purpose might be to implement the guidelines, but in doing that, what specific outcomes are you hoping for?

When writing objectives it is important that they are SMART

Specific

Measurable

Achievable

Results oriented

Time limited

Given this, one objective for Facility A might be as follows:

Within 3 months 100% of central line insertions will be in accordance with the Checklist of recommendations

The objective meets the SMART criteria by stating exactly WHAT will be changed/improved (central line insertion compliance), HOW the outcome will be measured (100% of staff), WHAT result is expected (100% compliance with recommendations) and is time limited (3 months).

Aiming for 100%

There may be some debate about the achievability of the objective, with some readers wondering about whether 100% compliance for central insertion can be achieved. These issues will require discussion at the local level, but it is suggested that all objectives include a "stretch goal" that may be difficult, but not impossible to achieve. Inclusion of such goals can help the team and the organisation to "stretch" for improvement (NSW Health, 2002). In a report from the APIC futures summit from 2007. Murphy et al (2008) discuss the need for successful health care facilities to have a nonnegotiable goal to eliminate all HAI. The goal provides a clear, guiding principle to all staff – that no patient or staff member should experience an infection associated with their health care. Establishing a clear, overarching goal such as this can help the facility to create specific aims and objectives to meet this goal, using the Model for Improvement. The successful implementation of the guidelines can provide the starting point for facilities to work towards achieving this goal.

2.1.2 Question two – What change can we make that will result in improvement?

There may be a number of changes that can be initiated immediately, while others will require more detailed planning and the box below provides a summary of ideas for the two facilities to improve compliance in each of their identified priority areas and recommendations for central line insertion:

Facility A (central line improvement)

Plan: Spread news that aim is zero infections; Reminder notices above the beds of ICU patients; Checklists to be completed for each insertion and placed in medical record as a permanent inclusion; Review of central line trolley content to ensure equipment is always available; Empowerment of clinical staff to immediately halt a procedure if the person inserting the line deviates from recommended practice(s); Ask ward clerk staff to collect audit checklists; Ask link nurses to remind staff on unit about project, build into policy review; Report rates at IP&C meeting for each unit; Display score boards.

Facility B (urinary catheter improvement)

Policy development including appropriate consultation with key stakeholders – includes a checklist of recommendations and provides for catheter use and duration to be limited: Education program reviewed to reflect policy; Checklists to be completed for each insertion and placed in a medical record as a permanent inclusion; Review of urinary catheter insertion trollev content to ensure equipment is always available; Include laminated "care of urinary catheter cards" on front of notes for all patients that have a urinary catheter inserted; Assessment for necessity of urinary catheter included as item for discussion on nursing handover / patient rounds: Empowerment of clinical staff to immediate halt a procedure if the person inserting the catheter deviates from recommended practice(s); Ask unit managers to remind staff on unit about process; Ask medical opinion leaders to remind junior medical staff about policy for limited duration: Use electronic reminders; Report compliance with recommendations at regular team/unit meetings; Display score boards; Calculate the CAUTI rate for target populations.

2.1.3 Question three – How will we know a change is an improvement?

Teams will need to consider how the progress of the implementation strategy will be measured. The tools to measure will need to reflect the specific issues that have been identified as requiring improvement. An example of measures for each of the case hospitals is provided below; **however evaluation and measurement are discussed in phase five – Evaluation and maintenance**.

Facility A

Baseline and progress data:

Staff interviews; random observational audits; CLABSI infection rates; review of checklist post insertion.

Facility B

Staff interview will show clinician concern decreased; measure the use of indwelling catheter use including – the percentage of patients with an indwelling urinary catheter inserted during hospitalisation, the percentage of catheter use with accepted indications and the duration of indwelling catheter use; review of checklist post insertion will show 100% compliance, rate of CAUTI¹.

2.1.4 Plan – Do – Study – Act

PDSA cycles are used to plan and implement the proposed changes, monitor the response to the interventions and review and act on results. Depending on the specific circumstances there may be one or more PDSA cycles. The examples below show how PDSA cycles can work for either facility A or B.

Plan – Do – Study – Act

Plan – Do – undertake a 4 week trial in one unit with solutions in place

Study – team meet to compare baseline and progress measures after trial period

Act – positive results – spread to other units; no change or negative results – consider why, ask team, consider monitoring for longer, and plan again! There are numerous resources available on the topic of the Model for Improvement and PDSA cycles. Links to some of these are listed at the end of this chapter, under tools. In addition, the inclusion of a team member who has knowledge and understanding of quality improvement processes may assist the team to work through this approach to planning solutions to implement the guidelines.

Helpful hint: Collaborating to achieve excellence in infection prevention and control

It can be helpful to ask for the assistance of someone who has knowledge and understanding of quality improvement processes when undertaking planning for improvement. Collaboration between infection prevention and quality improvement, where the complementary expertise, knowledge and skills of each is acknowledged, can greatly enhance efforts to achieve infection prevention and control.

2.2 Choosing strategies for implementation

While evidence for successful implementation of guidelines varies, there are some lessons that can be learned from the literature, and from programs where change has been achieved. Leadership is important, and implementation strategies should focus on building local consensus, ownership and on the local context. It may be that certain implementation strategies are more suitable for certain contexts and environments than others. For example, while educational outreach visits have been shown to be successful in changing prescribing behaviours, the changes in other areas are varied (O'Brien et al, 2007). Similarly, in hand hygiene programs, and in antibiotic stewardship, audit and feedback have been shown to be particularly effective in changing clinician behaviour (Lesprit and Brun Brusson, 2008; Carey et al, 2009).
It should also be noted that much of the research concerning the effectiveness of implementation strategies has been undertaken with clinicians in medical practice (RNAO, 2002). Implementation strategies that have been shown to work in medicine may not be as effective with other health professionals, including nurses and allied health professionals, or with administrative, ancillary and support staff members.

In summary, successful implementation of the AICG (2010) will be more likely if there is strong executive leadership, but strategies will need to be tailored in each facility and organisation, and depend on the specific context and factors such as the complexity, size, resources available and the barriers and gaps identified in that setting.

Lessons learned :

- What advice would you give to those who are trying to improve compliance with hand hygiene in an individual facility?
- Identify champions and early adopters

 do not waste time on a minority of laggards.
- 2. Use data and **always feed it back**.
- 3. Create a sense of **competitiveness**.
- 4. **Target** areas and health care workers with low compliance.
- 5. **Reward good outcomes** do not use program as a punitive exercise.
 - Phil Russo, Program Manager, HHA

Below is a list of some commonly reported implementation strategies.

Educational outreach visits – educational outreach visits involve face-to-face lectures by trained professionals to clinicians in their practice setting.

Printed educational materials – noninteractive printed materials circulated to health professionals.

Interactive educational meetings – education forums where there is active participation from group members in discussion.

Inter professional or multidisciplinary

collaboration – rounds, meetings (such as team meetings or case conference meetings) or education sessions where multiple disciplines are involved.

Local opinion leaders (may also be referred to as champions) – use of clinicians and other relevant professionals identified by colleagues as influential to help champion the project.

Audit and feedback – audit of clinical practice where a summary of results is presented to increase awareness of performance results. The use of audit and feedback is recommended as an important strategy by project officers working on the Hand Hygiene Australia initiative.

Facilitation – an appointed role where a facilitator possess skills and knowledge to help individuals apply evidence in practice (Harvey, 2002). The role is specifically about helping and enabling, rather than telling or persuading, and can involve methods where teams review their habits, skills and ways of working and thinking in order to change practice (Harvey, 2002).

Multi-pronged or multi faceted approach – the use of a combination of two or more strategies.

Tailored approaches – information gained from assessment of barriers and facilitators is used to tailor interventions.

Helpful hint: The value of a multipronged approach

An overview of systematic reviews conducted as part of the consultation process for AICG identified some consistent trends suggesting that there may be small to moderate effects of some educational interventions, particularly multifaceted interventions, educational outreach and printed materials, in changing clinical behaviour in terms of infection control practice. Teams may like to consider this when planning educational approaches.

(http://www.nhmrc.gov.au/_files_nhmrc/ file/guidelines/consult/consultations/ attachments_to_process_report.pdf - Education interventions for the prevention of healthcare associated infections, page 681–715)

2.3 Choosing solutions for infection prevention and control

There are a range of specific tools and solutions that have been used in health care settings to assist in the prevention and control of HAI. Examples include:

- Checklists (for example for CVAD insertion)
- Audit tools (for example hand hygiene; assessment of infection control practices)
- Bundles (for example for prevention of CLABSI)
- Educational tools (for example DVD's to demonstrate hand hygiene and PPE processes)
- Link nurse programs
- Regular and timely feedback of individual performance data
- Teaching of skills in "Wet-labs".

Did you know? Education resources

The ACSQHC has initiated the development of several educational resources for ICPs and HCWs who undertake infection prevention as a key part of their role, in both private and public settings. These resources include interactive online modules to facilitate learning for all practitioners, regardless of geographical location in Australia. The content has been developed by experienced Infection Control Practitioners/ Professionals (ICPs) from all states and jurisdictions. They are harmonious with the AICG, risk management focused, and provide information to support the diversity of health care services. The modules can be accessed via the ACSQHC HAI program webpage: http://www.health.gov. au/internet/safety/publishing.sf/Content/ PriorityProgram-03

Links to a number of websites where a range of tools can be accessed is included in the resources section at the end of the toolkit. However this list is not exhaustive. Individual facilities will need to undertake their own research to identify resources and tools to support implementation of the guidelines in their facility, and choose which will be most appropriate to their specific context. It is possible there are some tools within your facility already in use that may be suitable or only need minor adaptation to reflect the AICG recommendations. Brainstorming potential solutions and strategies with staff from various units and departments, and making contact with infection control professionals within the state or jurisdiction, may be another way to identify the tools that will be used to support implementation. The most important consideration is the involvement of key stakeholders - those people that will be part of the change process and required to actually implement change in their practice - in the process of identifying potential solutions to trial. The use of PDSA cycles and ongoing feedback will enable the value of these solutions to be monitored.



Case study: Spreading the word – Link nurses/midwives at the Royal Hospital for Women, Randwick, NSW

Getting the message of Infection Control across to all ward and units in a health care facility can be a challenge. Margaret Evans, Infection Control CNC at the Royal Hospital for Women, Randwick, NSW says that health care workers need to believe the message is important and relevant to their everyday work or they will not own it. She has found that Infection Control Link Nurse/Midwife (ICLN/M) on wards and units has been extremely helpful in spreading the word throughout the organisation about best practice in infection prevention and control. The program has been in place for fourteen years. Having an ICLN/M on a ward or unit enables each clinical area to identify their own IC issues and accept responsibility for addressing them. Margie believes that the ICLN/M is essential to influencing change in clinician behaviour and ultimately reducing health care associated infections. A key principle of the ICLN/M is team work and collaboration delivering patient centred care for the best patient outcome.

What are some of the activities a link nurse is involved in?

- undertaking audits and providing feedback on audit results within a clinical area
- providing infection control education to all clinical staff at ward/unit level
- identifying problems and issues within units
- monitoring the implementation and maintenance of standard precaution procedures
- undertaking screening for exposure prone procedures
- collaborating with other link nurses and the Infection Control CNC
- monthly audits to ensure their ward unit have safe and the best infection control practises to protect patients and staff.

Examples of audits

- Infection Control risk assessment
- sharps management
- latex/dermalititis
- clinical waste.

Infection Control Activities

- Infection Control quiz
- glitter bug/glow germ
- show videos
- surveys prn
- PPE
- Hand Hygiene
- Orientation education at ward/unit and role modelling to these new clinicians.

As the Infection Control CNC, how do you go about supporting the link nurses in their role?

- providing education to support their work for example on analysis of work practices, risk assessment of environmental issues, and problem solving techniques.
- empowering them to act in the local situation and supporting them where needed

- negotiating with senior staff on their behalf (for example with rostering to attend education)
- providing regular positive feedback and encouragement
- providing support in risk management and documentation of IC issues
- assisting with data entry and data analysis
- supporting them in policy implementation not letting them take the flack!
- facilitating a SWAT analysis at the end of each year to review what they are doing, what has been achieved, and plan for the next year
- meeting with them monthly to provide an opportunity for learning, networking and to problem solve issues
- valuing their strengths in their roles.

What are some of the factors that are integral to the success of a link nurse program?

- having the active support of both executive and middle managers so that the program is built into the culture of the workplace infection control is a priority
- formal and public acknowledgement of effort and achievement with an end of year celebration, executive acknowledgements and thanks, and regular feedback on their progress
- ensuring success by starting with tasks that are achievable
- active buy in from the nurse unit manager NUM this can be achieved by pointing out that the role will have an impact on EQuIP accreditation results and on numerical profile results
- identifying "champions" to take on the role people who are interested and will be enthusiastic
- Having a number of ICLN/M in the larger wards has allowed the duties to be shared and maintained during leave by the team member.

What have been some of the achievements that can be attributed to the program?

- compliance of wearing PPE significantly improved
- CS infections rates 1/2 that of NSW
- good reporting of incidents and infection rates
- excellent 'buy in' with the new 5 moments in hand hygiene. After initial resistance, RHW now has hand hygiene compliance is 85%. This culture change could not have happened without the role of the ICLN/M
- a number of different ICLN/M have very successfully relieved the CNC ICP when on holidays. This has been good succession planning plus has improved the skills of the link nurse/ midwife when returning to the ward.

2.4 Deciding on solutions and strategies – which ones?

When deciding on the many solutions and implementation strategies available, it may be helpful for the team to ask the following:

- What evidence is there to support the chosen tool/strategy?
- What has been the experience of others using the tool/strategy?
- In what context has the tool/strategy been used?
- Is the tool up to date, or will it require adaptation?
- How acceptable will the tool/strategy be in this setting?
- What approval is required to use this tool/ strategy?
- What education is required to enable staff to use this tool/strategy?

- Will the tool/strategy address the identified gaps in practice?
- To what extent will the tool/strategy enable us to overcome some of the barriers identified here?

Once a list of all potential tools and strategies has been made, it can be helpful to use a decision making matrix or "ease of impact" grid to determine the ones that will be used. A suggested approach to decision making in this way is outlined below (adapted from Bens, 2005):

- Brainstorm the list of ideas listen to all ideas and write them all down
- Ensure everyone understands each good idea, look for the strengths in each – for example: will this tool make a difference in an area that is high risk? Is there is evidence to support the tool that might make it easier to implement?
- Plot ideas in the decision making grid below according to ease of effort in implementation, and level of impact.

Major impact	EASY/MAJOR Checklist for CVL insertion Discuss at weekly meeting Display weekly progress	DIFFICULT /MAJOR Enlist opinion leaders to talk to colleagues about CVL insertion practice Empower clinical staff to stop procedures if checklist recommendation not followed
Minor impact	EASY/MINOR Write note in communication book	DIFFICULT/MINOR x
	Little effort	Major effort

Ease of impact decision grid (adapted from Bens, 2005)

Generally speaking, ideas that are easy to implement should be considered regardless of the impact. The more difficult ideas that are likely to have a major impact should also be given serious consideration – however implementation of these will need to be supported by a more detailed action plan. A cost-benefit analysis may also be considered – for example, the chosen tool may be high cost initially, but may have far reaching benefits patients in terms of outcome. The difficult solutions that will require major effort but are expected to have only minor impact are the ones that can be left until last, or perhaps even discarded. Note also that priority should also be given to activities that address risks that are high and have a potentially catastrophic outcome. A record of all of the potential tools and solutions identified should be kept, as there may an opportunity to reconsider their value and potential impact as the implementation work progresses.

Case study: Central line associated bacteraemia – Is it possible to eliminate all infections in 90 days?
Step 1: Set ambitious goals
Eliminate all infections in 90 days
 Multidisciplinary team – Nursing, Medical, Infection control, Infectious Disease, Hospital Administration.
Step 2: Observe variations in work
Extensive chart review
Talk to the people doing the work!
Outside independent observers.
Step 3: Real time problem solving
Weekly "Bug meeting"
 In depth analysis "How and Why?"
No blame. Safe environment.
Step 4: Implement and test countermeasures
Ban femoral lines
No rewiring of old lines
• Standardise care: biopatch, chlorhexidine, clear dressing.
Step 5: Evaluate
 Improvement not sustained – why?
Majority of CLABs in follow up year found to be related to line placement issues
 No training programs to sustain and re-educate
• New residents and fellows brought with them "old ways" of central line insertion.
Implement countermeasures
 Instigated formal training in central line Insertion for all trainees
• On line physician training module, Multiple choice test, Video, One on one hands on training with a mannequin, Companion training module for nurses.
Result – sustained improvement over 12 months – NO CLABS!

Adapted with permission from: Jerome E Granato MD, Allegheny General Hospital presentation May 14, 2007, Pittsburgh Regional Health Initiative, Jewish Health Care Foundation

2.5 Tools and resources

2.5.1 Links to resources to assist setting goals (the Model for Improvement)

ACSQHC – About the AICG – information for health care staff

NSW Health Department (2002) Easy Guide to Clinical Practice Improvement. 2nd edition available from www.health.nsw.gov.au

Victorian Quality Council Australia, Feb 2006. Successfully implementing change. available from www.health.vic.gov.au/qualitycouncil/downloads/successfully_implementing_change.pdf

Phase three

S = Stakeholder engagement

Phase three provides specific guidance on ways to identify, communicate with and maintain the involvement of stakeholders. Implementation plans are most likely to be successful if there is early identification and involvement of key stakeholders from the area of practice where a need for change is identified (Carey et al, 2009).

This phase will enable the leadership team to consider:

- ways to identify stakeholders
- meeting the communication needs of different groups of stakeholders
- maintaining stakeholder involvement, including the involvement of opinion leaders and champions.

So far you have:

Formed a project team with the right representation
Identified champions, opinion leaders and stakeholders
Considered project resources – time, cost, human
Assessed organisational readiness, clinical practice and barriers to change
Decided on solutions and strategies for implementation

S=Stakeholder engagement

3.1 Identifying stakeholders

Stakeholders are individuals or groups who are interested in or who may be affected either directly or indirectly by an issue – in this case, change and improvement in infection control practice. In the process of work to change behaviour and clinical outcomes there will be a number of individuals who could be identified as stakeholders. Successful stakeholder engagement is absolutely essential to the success of a project. When thinking about who the stakeholders are, it is important to understand that a range of people will be influenced by the project, and that this range is often much broader than the project team may initially realise (NHMRC, 2000). Thinking carefully about this issue, and taking the time to systematically identify all the different stakeholders, their role in the project in terms of influence and support, and their specific information needs will assist teams to be inclusive in their project planning, reduce the risk that specific communication needs will be overlooked, and enhance the likelihood of ongoing buy in and support of the project.

In describing the development of an engagement tool for practice development, Walsh et al (2005) suggest that at the beginning of a project the staff list all the partners, both individuals and departmental, with whom it may be necessary to engage to increase the likelihood of a successful outcome. The list is then broken down into groups who the team need to:

- work with directly as part of the engagement process
- engage in consultation during the process
- keep informed and/or need to establish communications.

Who will our partners in this project be ...

List all partners – individual and departmental – with whom it may be necessary to engage to increase the likelihood of a successful outcome ...

Walsh et al, 2005



Lessons learned: Using brainstorming to identify stakeholders

In our facility we may as a team use a white-board and brainstorm to identify stakeholders in any initiative. The result can be overwhelming, however we can take a very long list of stakeholders and then decide where our priorities lie and the level of effort required to engage each of them. Some stakeholders will merely need to be informed about an initiative whereas others will need much more effort especially if some form of commitment or resource allocation is required from them. It is better to be exhaustive in your stakeholder list than to find yourself in the midst of an initiative and discover a key stakeholder was overlooked. It is much more difficult to engage that stakeholder having clearly demonstrated that they were not previously considered.

Deborough MacBeth, ADON, Infection Control Gold Coast Health Service District

The authors then suggest asking a series of questions about the existing relationships between the key partners and those leading the project, to identify if there is anything that might get in the way of successful engagement. Finally, Walsh et al (2005) point out the importance of asking if staff have the emotional and cultural capacity to engage in change. Having listed all the issues that would support or hinder a successful change process, the team can plan actions necessary to build engagement before starting work on implementation, and work towards an implementation strategy that is truly a shared process with ownership from all stakeholders.¹

Stakeholder engagem

¹ The Building Effective Engagement Techniques (BEET, version 2, Lawless and Walsh, 2005) tool can be obtained by contacting Professor Kenneth Walsh RN PhD., Professor of Nursing Practice Development, South East Sydney and Illawarra Area Health Service and School of Nursing, Midwifery and Indigenous Health, University of Wollongong, NSW Australia Email: kenw@uow.edu.au

3.2 Managing stakeholder needs

The RNAO (2002) makes the following points about stakeholders and influence:

- stakeholders who have high influence and are highly supportive will positively influence implementation, and will need to be kept regularly updated with progress
- those who have high influence and are low in support need the greatest amount of attention in order to facilitate engagement
- those who have low influence but are highly supportive need some attention to prevent them from becoming neutral or negative toward the change
- those who have low influence and are low in support may be lowest on the priority list; however, it is best to engage this group to at least a neutral position to minimize any negative effects.

A template for assessing stakeholder interest and managing stakeholder needs is included in the tools section of this chapter.

3.3 Communication plan

Miscommunication is a real risk to the success of the project. The team needs to consider which communication strategies will be most useful to meet the communication needs of various stakeholders at different levels of the facility. It is important that stakeholders receive regular updates from the project team regarding the progress of the project work plan, especially during the early phases of the project, but as already discussed their needs will be different depending on their level of influence and support for the project. Ideally, all stakeholders should be asked their preferred means of communication, however more in-depth consideration may need to be given to those stakeholders who have high influence to ensure they are kept fully informed of progress.

Words from a project manager ...

"In my experience, it is the **face-to-face conversation** that keeps people involved. Email works for brief updates – but it is the face-to-face contact with people that **builds relationships** and **makes the difference**!"

3.3.1 Use multiple methods

The clinical environment is complex, and most stakeholders regardless of the setting are busy and often juggling many competing demands. They may be involved in multiple projects or change processes simultaneously.

Helpful hints: Engaging stakeholders – HHA

Project officers and site leaders working on the HHA program have found the following approaches helpful in engaging with stakeholders:

- Giving regular updates of progress and improvement helps keep clinicians engaged
- Providing evidence supporting improving hand hygiene compliance.
- Feeding back audit data is extremely useful in getting buy in from Executive Staff and managers.

Using a variety of methods of communication enables the team to provide important updates while at the same time keeping information to the point. It also increases the chance that information about the project progress gets to all who need to know. For example, while electronic media such as email can make it easy to meet continual communication needs, it will not always reach all groups, as computers are not always accessible for all health care workers, or to patients and carers.

At the same time, it is important that the project team do not forget the value of regular faceto-face discussions with people about project progress. Many experienced project managers and coordinators recommend regular face-toface contact as the primary communication strategy in building and maintaining engagement of all stakeholders.

Communication ideas

Ask – what MUST people know to remain engaged, and use a variety of methods to get the message to staff at all levels:

- Standard PowerPoint presentation for use in a variety of forums – education updates, meetings
- 5 facts in 5 minutes presentations
- Make postcards with a key message for each week/month
- Include graphs to visually show progress

 plot comparative performance between departments or baseline to current performance
- Discussions at regularly scheduled team meeting with printed materials handed out
- Posters displayed in offices, units, corridors, lifts
- Dedicated noticeboard include photos and details of local contacts
- Weekly email updates on progress results
- Intranet page updated monthly
- Dedicated bi-monthly newsletter hard copy and electronic.

3.3.2 Develop a "brand"

Depending on resources available, the team may give consideration to developing a logo that can be associated with the guidelines. Logos and "branding "have been used to successfully implement programs in the area of safety and quality Internationally and in Australia, in programs such as the WHO High 5's of patient safety, HHA, Between the Flags (NSW), and I-Care (QLD). However, branding does not need to be on a large scale. It may be as simple as using one colour of paper for printing all communication about the guidelines. or involve a team and invite them to come up with a slogan or idea to represent the project. In larger facilities, it may be possible to seek the advice of a public affairs department on ways to promote the project. Whatever "brand" is used, try to ensure that it is used on all communication related to the project.

3.3.3 Don't forget about patients and carers

Ensure your communication plan includes processes for keeping patients and consumers informed. Use the tools and strategies identified during the simple solutions phase, and remember to keep checking the NHMRC website for new resources that will become available, including signage and patient information leaflets.

3.3.4 Incorporate key messages

Project teams should keep the focus on spreading the **key messages** about the AICG, and also ensure the aim of implementation is at the forefront of the communication plan. This might include target messages (E.g. getting to zero – see case study) or messages about important dates.

Link to the AICG:Key messages

- Health care associated infection is preventable
- No consumer of healthcare in Australia should acquire a preventable healthcare associated infection
- Infection Control is everybody's business
- Infection Control is integral to clinical care and the way in which it is provided – it is not an additional set of practices
- Involving patients is essential to successful infection prevention and control
- Adopting a risk management framework to infection control at all levels of the organisation or facility is necessary.

3.3.5 Support opinion leaders and champions

The role of opinion leaders and champions was discussed in the previous phase. People identified as opinion leaders and champions will have a good understanding of the workplace environment, and the complexity of the environment in which care is delivered.

Helpful hint: Project champions

You know them – opinion leaders and project champions are people you work with, they are genuinely interested and enthusiastic about patient safety and achieving excellence in patient care. Don't forget to use their enthusiasm – ask for their ideas and involve them in implementation! While these individuals will likely be very supportive of improving infection control practice and implementing the guidelines, they may be unsure about their role as opinion leader. The project team should be clear about what is being asked of people who are willing to take on this role and agree to act as a leader for the project in their work area. In addition, the team should ask *in what ways can we support you so that you can support the project*? In some facilities, there may be potential for opinion leaders and clinical champions to attend workshops or education sessions to improve their skills in leadership.

Table 3.1 provides some practical ideas for building and maintaining stakeholder engagement through the phases of OSSIE.



Table 3.1 Stakeholder engagement strategies*

Phase	Objectives	Potential strategies
Organisational leadership Project briefing and initial engagement	To ensure a clear understanding of the project's scope, aims and	Begin to display awareness raising material E.g. Infection Control is everyone's business
	likely outcomes, roles and responsibilities, to generate	Face-to-face briefing meeting
	a shared commitment for the project and generate	Summary of the project available in printed format
	momentum for change	Project details (electronic or printed) available upon request
		Incentives such as refreshments and stationery
		Clear statement of what the project is 'not about'
Simple solutions and strategies for implementation	To best utilise available expertise for project success,	Identification and involvement of key individuals as required
Active involvement and engagement	and to obtain feedback and comments in order to identify potential and actual barriers	Provision of support and incentives for champions and opinion leaders
		Provision of incentives for feedback from staff such as a lucky draw
Implementation and evaluation Maintenance of engagement	To provide updates and progress for proper project governance	Regular updates through printed or electronic media such as newsletters,
	To maintain enthusiasm and	pamphlets, intranet
	To encourage active participation	during regular scheduled meetings and education
	To ensure dissemination of	Regular face-to-face
	outcomes and successes To acknowledge participation	discussions – corridor, quick phone call, over coffee
	and commitments from stakeholders	Innovative ideas such as a weekly quiz game, postcards
	To motivate stakeholders for continual improvement	(e.g. Did you know)
	To celebrate success	Brief presentation with senior management presence
		Formal acknowledgement (e.g. at grand rounds, or presentation of achievement certificates)

*Adapted from OSSIE Guide to Clinical Handover Improvement, 2010

Good idea – engaging staff in IP&C – "Talking Walls"

"Talking Walls" were used as part of a comprehensive and multi faceted program to improve hand hygiene culture and reduce the burden of MRSA infection at Austin Health. Health care workers generated ideas for a poster that promoted aspects of the broader program using art and humour. An artist who was also a nurse at Austin Health captured the ideas of the health care workers and refined these to create a large coloured wall poster that was printed and displayed throughout the institution. The comprehensive program resulted in improvements in hand hygiene and in MRSA rates, and was the basis for the development of the National Hand Hygiene initiative. Talking walls have been described elsewhere in the literature as a strategy to assist improvement in hand hygiene culture. For more information about Talking Walls, visit **www.debug.net.au** and **www.hopisafe.ch/hand** hygiene improvement work.

Reference: Johnson, P.D.R., Martin, R., Burrell, L.J. et al (2005) Efficacy of an alcohol/ chlorhexidine hand hygiene program in a hospital with high rates of nosocomial methicillin-resistant Staphylococcus aureus (MRSA) infection. Medical Journal of Australia 2005; 183 (10): 509-514.

Johnson et al (2005)

3.4 Tools and techniques

3.4.1 Stakeholder assessment worksheet

Adapted from Registered Nurses Association of Ontario (RNAO, 2002)

Toolkit: Implementation of Clinical Practice Guidelines (© RNAO)

Key stakeholder	Nature of the vested interest	Stakeholder Influence and support (high, and low)		Management strategies	Revise
		Influence	Support		
Example: Managers	Improving clinical services Meeting accreditation requirements Reducing incidents Being the best unit/ facility Retaining staff Reducing OH&S incidents	High	High	<i>Example:</i> Collaborate on all phases of the project Include on leadership team Frequent updates on progress	



Phase four

= Implementation

The Implementation phase of OSSIE is where all the work undertaken up until now comes together in a project action plan. The action plan describes who will be responsible for what actions, when each of the actions will be put into place, the resources required and what measures will be used to monitor progress. Writing an action plan also provides an opportunity for the project team to work together with executive to think about governance and risk management issues.

This section of the toolkit will assist the project team to:

- develop a detailed action plan for implementation
- give consideration to communication issues, risks to implementation, and governance
- use PDSA cycles to pilot the plan.

So far you have:

Formed a project team with the right representation
 Identified champions, opinion leaders and stakeholders
 Considered project resources – time, cost, human
 Assessed organisational readiness, clinical practice and barriers to change
 Decided on solutions and strategies for implementation
 Engaged stakeholders and developed a stakeholder communication plan

I=Implementation

4.1 Developing an implementation action plan

4.1.1. Using a change framework to guide implementation

Change is complex and not a straight forward process. The use of behaviour change theories can provide some insights into why this is so (see the work of Moulding et al, 1999; Grol and Wensig 2004, and Carey et al, 2009). These theories recognise the importance social influence, goal setting and positive feedback can have in efforts to promote change in practice. They acknowledge that individual motivation and readiness to change can greatly influence change in behaviour, as can elements in the environment.



The importance of an assessment of readiness for change, as well as barriers to change was discussed in phase one – Organisational leadership. A well planned approach to implementation will incorporate strategies that motivate and empower staff, and strengthen the workplace environment, to enable staff to engage in infection prevention and control, and change and improve practice if required.

John Kotter's 8 steps for leading change in organisations provides a useful way for project teams to think about how they will use the chosen solutions and strategies to approach implementation, and takes into account factors such as individual motivation, the context, and the need for leadership and clear vision. The steps and examples of how Kotter's framework might be applied are listed in Table 4.1.

Lessons learned: Changing practice

What three pieces of advice would you give to others trying to improve compliance with infection control guidelines and policies ...

- identify effective local champions who remain engaged
- provide dedicated time to support the program including auditing and giving feedback
- have visible and tangible support from District Executive and local leaders.
 - Jenny Stackelroth, CNC Infection Control, South West Health Service District, QLD

Table 4.1 Kotter's 8 steps for leading change (from Kotter, 1995)

1. Create a sense of urgency

Provide posters and education about the scope of the problem of HAI, with reference to the local context ; use patient stories

2. Form a powerful guiding coalition

Form the leadership and project team, ensure there is representation from those in the facility that will have the power and authority to make change, as well as opinion leaders and allies from all levels of the organisation. Don't forget cleaning and admin staff who have a significant part to play in the delivery of safe patient care!

3. Create the vision for change

Establish a vision of patient safety; what will this facility look like when infections are reduced; consider setting zero as a target – **what if there were NO HAI!**

4. Communicate the vision

Communicate to all the aims of the project – use multiple modes of communication; enlist opinion leaders and champions to spread the vision; don't forget to share communication with patients and carers

5. Remove obstacles

Make it easy for people to do their work – place resources at the point of care, consider the development of audit charts and tools that make it easy to document, use pre-existing audit tools; have facilitators (E.g. ICPs) work with teams to come up with new ways of working; make it easy for patients and carers to give feedback

6. Create short term wins

Begin with a pilot, share with all the facility the successes as they become apparent, even if only small improvements to begin with – E.g. no needlestick injuries for one week, increasing PPE compliance etc; look for side effects of the program – for example improved collaboration

7. Build on the change

Spread to other units and departments, maintain feedback system and engagement

8. Anchor the change in culture

Keep patient safety and infection prevention on the radar – ensure policies reflect new practices, build regular updates into routine forums, committees, encourage staff to present ongoing successes

An action plan template for implementation is included in the tools section at the end of this chapter.

4.1.2 Communication issues

It is important that the team document how information about the project will be communicated throughout the facility. Ideas for how to do this were discussed in the previous phase. The team will need to ensure the communication plan developed during the stakeholder engagement phase is incorporated in the action plan.

4.1.3 Project risk management

There are a number of factors that are part of the every day complexity of health care that pose a risk to the success of the implementation project. These can include (handover OSSIE):

- Availability of clinical staff
- Competing demands of staff
- Inadequate resources
- Delayed delivery of tools for implementation
- Difficulty educating all staff.

It is a good idea for teams to brainstorm these potential risks and create strategies that may help deal with the barriers identified (Table 4.1)

Table 4.2 troubleshooting the action plan(adapted from Bens, 2005)

Step one:

Brainstorm the potential barriers

- What are the most difficult aspects of the plan?
- What shifts could occur that will change the priority of implementation?
- What organisational blocks and barriers could the project face?
- What technical problems could delay the program?
- What human resource issues could we face?
- In what ways might team members on this team not be able to complete the actions?

Step two:

• Create actions to overcome each of the identified barriers (what, how, who, when, measure).

4.1.4 Determining measures for project progress

A plan for evaluating progress and outcomes will need to be incorporated. This is discussed in the next phase of OSSIE – the evaluation phase.

4.1.5 Gaining executive approval and sign off

The process for obtaining executive sign off will depend on the individual facility. Ideally, a member of the executive has been part of the project team, and regular progress updates have been provided to the executive leadership of the facility. Having executive leaders sign off on the action plan provides a good opportunity for the project team to present the management with the final details of the project, and gives the executive a chance to ask questions, clarify issues, and be fully prepared and informed about their role in implementation. It may also help increase commitment and executive buy in, and enables a means for the executive to actively demonstrate their commitment to implementing the AICG and reducing HAI.

4.2 Piloting interventions using PDSA cycles

Despite all efforts to comprehensively assess the current situation, unintended consequences can occur during the implementation phase (OSSIE guide to handover, 2010). It is for this reason that consideration should be given to piloting new processes and revising the implementation plan as necessary, as new learning becomes apparent as a result of the pilot. The OSSIE guide to clinical handover (2010) suggests the following be considered in relation to piloting new processes:

- Choice of clinical area is there a sufficient cohort of patients to enable a meaningful pilot? What ground work will need to be done to prepare the area? What other activities are going on in that unit now?
- Engagement of staff are there areas in your facility where staff are more likely to embrace the opportunity for improvement and adopt new processes more easily? It may be worthwhile starting in areas where success may be more likely, to demonstrate early improvements or "quick wins"

- All patients or specific cohorts in your pilot will you include specific groups of patients (for example those with a known infection or all patients on that unit?
- Meaningful evaluation what data will you need to really know your interventions are making a difference (see also phase five – Evaluation).

The use of **Plan – Do – Study – Act (PDSA)** cycles as part of the Model for Improvement can be most useful to the team as a means of "trial and learning":

- P Plan prepare an action plan for implementation
- **D Do** trial the actions in a specific unit or area, or with a certain group of patients
- **S Study** compare the baseline and progress measures
- A Act take action depending on the results – continue with the trial in one unit or spread your implementation plan to other areas

Table 4.3 provides an example of how Facility A could use PDSA cycles in a pilot study, however the same principles of improvement would apply regardless of the process being targeted:

Table 4.3 Case of facility A – Implementing change using the Model for Improvement and PDSA cycles

What are we trying to achieve

Within 3 months 100% of central line insertions will be in accordance with the checklist of recommendations

How will we know a change is an improvement?

Staff interviews; random observational audits; CLABSI infection rates; review of checklist post insertion

What change can we make that will result in an improvement?

Marketing plan: Spread news that aim is zero infections; Reminder notices above the beds of ICU patients; Checklists to be completed for each insertion and placed in medical record as a permanent inclusion; Review of Central Line Trolley content to ensure equipment is always available; Empowerment of clinical staff to immediately halt a procedure if the person inserting the line deviates from recommended practice(s); use ward clerk staff to collect audit checklists; use link nurses to remind staff on unit about project, build into policy review; rates reported at IC meeting for each unit; display score boards.

Plan – Do – Study – Act

Plan – Do – undertake a 4 week trial in one unit with solutions in place – start with education program, email reminders, walk arounds from exec staff, signage, multidisciplinary meetings, ensure all relevant staff are involved

Study - team meet to compare baseline and progress measures after trial period

Act – positive results – spread to other units (consider two more) – shared result across hospital with did you know signs, send champions from unit to talk about experience to other units or facilities. Spread to other units across health service as appropriate. No change or negative results – consider why, ask team, consider monitoring for longer, and plan again!

Once the pilot is complete and feedback has been incorporated, implementation strategies should be spread to other units and areas of the facility. Part of this process will involve facilitating opportunities for staff from the pilot areas to share their experience of implementation with other units, reporting on what worked well, challenges and lessons learned. In this way, the project can be enhanced so that the most effective interventions are the ones utilised to spread the project to other units and departments.



Case study: Using a multifaceted approach to implementing change in PICC line care

The Queen Elizabeth Hospital (QEH) Adelaide is a 350 bed teaching hospital. To reduce CRBSI infection rates to below the national level, a PICC working group was formed with executive sponsorship, and the following strategies implemented:

- New revised policy on PICC line care was introduced
- Full barrier precautions with each insertion
- Replacement of povidone-iodine with a 2% CHG and 70% alcohol containing solution for insertion site preparation
- Introduction of an occlusive dressing with a slow release CHG patch at insertion site
- Introduction of a CHG and alcohol swab stick for dressing changes at 7 days
- Use of a mechanical access vascular device (MAVD) on all PICCs and CVCs
- Education:
- A face-to-face training program included a presentation and education kit covering what type of lines used, why, how inserted, risks of line, and points of infection
- Similar training also available on all computers in target units/departments
- Practical hands-on sessions to enable staff to practice blood collection, line dressings, and occlusion management
- Pre and post test measure of knowledge of staff undertaking the education package.

Barriers to implementation

- Protracted delays testing and introducing new products into the hospital
- Staff resistance to change to new CHG-containing product due to a preference for the more visible iodine povidone solution
- Staff were challenged trying to find time to participate in PICC project team meetings and also to undertake the increased work given that there was no additional investment, nor any release from duties.



Lessons learned:

- Recruit champions at organisation-wide and unit-specific levels. This project's champions included senior executive staff from various divisions. These champions advocated and supported the project at multiple committee and other decision making levels
- Provide regular feedback to staff to build ongoing and sustainable relationships
- Local, national, and international networks provide alternative perspectives and additional valuable information that can add value to the project
- Infection control practitioners require substantial project management skills and resources to design and implement projects of this magnitude
- Provided clinical evidence of benefit of change – some units demonstrated a tendency for complacency and stubbornness to change to the new skin prep product. Sustained change was only achieved when the infection control practitioners provide clinical evidence for change
- When introducing any new product, QEH suggest that a 1-month amnesty be adopted after which time all remaining supplies of old product are removed, thus forcing adoption of the new product and sufficient time for staff to become comfortable with and competent in the use of the new product
- Provide PICC education as an ongoing educational opportunity to provide old and new staff with opportunities to refresh or increase knowledge and expertise
- Do not forget patients give education on care and management of their PICC lines.

Project outcomes

- Sustained, downward trend in CRBSIs
- Monitoring system indicates when the 1% threshold is exceeded and it triggers a rapid response and immediate investigation by the infection prevention team
- Ongoing downward trend in the volume of blood cultures processed.



4.3 Tools and techniques

4.3.1 Implementation action plan

Adapted from Registered Nurses' Association of Ontario (RNAO, 2002)

Toolkit: Implementation of Clinical Practice Guidelines (© RNAO)

Step	Actions	By who?	By when?	Resources needed	Progress measures
 Decide specific implementation processes and strategies who will be responsible for what actions when each action will occur the resources required measures will be used to monitor progress (see phase five). See also phase two – Solutions 	Examples: develop education material make room bookings order patient information sheets		1/10	Printing Admin support	
Develop communication plan* How will information be communicated When/how often information will be communicated See stakeholder phase*	Examples: Set a launch date Formulate a "brand" or logo Fortnightly data emails Update intranet fortnightly Newsletter template				
Risk assessment of action plan Trouble shoot plan to identify barriers List strategies to overcome barriers to implementation process	Examples: Short staffing over winter mitigate by				
Identification of monitoring processes Establish baseline Set measures to monitor progress. See evaluation phase*	Examples: Education on audit tools for unit/dpt reps Gather baseline data before launch date			audit tools pt surveys	
Approval of implementation plan Implementation plan and tools approved by relevant management/ executive	Example: Exec team member to discuss plan and resources/support required at exec management group				
PDSA Conduct pilot Study results from pilot Proceed to widespread implementation Report and respond to results	Example: Ensure all tools available for pilot				

4.3.2 Template – project progress report

Guideline implementation – project update report
Date:
Prepared by:
Activities undertaken and hours
Include a summary of the activities undertaken such as education sessions, poster distribution, audits, surveys, meetings. Consider including approximate hours.
Progress results
Provide a statement summary of results, attach relevant graphs
What is working well
List what has gone well in the project to date – e.g. attendance at education, positive feedback, teams working effectively
What is not working well:
List what has not gone well
Lessons learned
Issues summary
Planned activity – next phase
Actions requested from management:

4.3.3 Links to project management resources

www.jiscinfonet.ac.uk/infokits/project-management/top-tips

last accessed 4 July 2010

www.health.vic.gov.au/managementinnovation/resources/project-plan-kit.pdf last accessed 4 July 2010



Phase five

= Evaluation and maintenance

Phase five is about the approaches that project teams may consider to assist evaluation of their implementation project, and builds on the baseline assessment work that was undertaken early in the project.

In this phase you will:

- consider the purpose of evaluation
- differentiate between process and outcome measures
- determine the best strategies and resources required to evaluate the progress for your implementation plan
- undertake analysis of results
- develop strategies and a communication plan for providing feedback
- consider ways that improvement can be sustained.

So far you have:

Formed a project team with the right representation
Identified champions, opinion leaders and stakeholders
Considered project resources – time, cost, human
Assessed organisational readiness, clinical practice and barriers to change
Decided on solutions and strategies for implementation
Engaged stakeholders and developed a stakeholder communication plan
Developed an implementation action plan

E=Evaluation and maintenance

5.1 Approaches to evaluation

An evaluation plan needs to be developed to enable the project team to measure the progress and impact of the guideline implementation strategies. Ideally, the evaluation plan will include process and outcome measures, and quantitative and qualitative data, to provide a more comprehensive understanding of the extent to which improvement is being achieved, and the context under which this is occurring. It will enable the team to know not only what the effect of the guidelines is on practice, but also how the changes are being received, if there are any other positive or negative effects that were not anticipated, and also to identify lessons for implementation of future guidelines.

The importance of context ...

The question is not only, what works? For most health professionals, it is more accurately the question, what works here? How do we learn to transform healthcare in unique and dissimilar settings?

Stevens, D. QSHC, April 2009

The significance of the evaluation phase in ensuring sustainable improvement should not be underestimated. It will require ongoing allocation of resources and staff time – not only for the continuing collection of data, but for the development of support tools such as audit sheets, analysis of data, and identification of actions required as part of this analysis.

Planning for evaluation will have commenced during phase two when the project team was exploring the Model for Improvement and looking to answer the question – how will we know a change is an improvement? As much of the focus of the guidelines is on the use of processes that relate to improving infection control practice, measuring improvement in compliance and use of these processes will provide one indication of the effectiveness of your guideline implementation efforts. Reduced infection rates are the ultimate goal of the use of these guidelines, so infection rates should also be monitored and measured. However as this is a long term goal, improvements in this area may not be seen in the short term. Monitoring of process and outcomes related to change in clinician behaviour will provide more immediate indication of progress.

When developing the evaluation plan, teams should think about:

- what will be measured
- how data will be collected and recorded
- analysis and interpretation of data
- feedback of the results to all stakeholders
- acting on the results.

Table 5.1 lists some of the questions that will need to be considered in the development of an evaluation plan.

Table 5.1 Questions and issues in data collection (adapted from RNAO toolkit, 2002) (© RNAO)

Which patients/clients should be included?

Where should the data be collected from?

Which staff will be included?

What sample size will we need?

What process/outcome measures should we use?

What methods are available to collect the data – what existing tools and resources are available?

What factors might hinder or bias data collection?

Who will enter the data?

Who will be involved in the analysis?

Who will write the evaluation report?

Who will present the data?

How will the data be presented?

Where will the data be presented?

Who needs to approve the plan?

Helpful hint: Involve staff in evaluation

Individuals working in patient care and support service areas will have an understanding of the clinical environment, and can provide advice on the accessibility and timing of data collection processes, as well as insights into any local and existing systems for data collection, and forums for feeding back results.

5.2 Measurement

5.2.1 What should we measure (or how will we know a change is an improvement?)

What data will need to be collected to enable a facility to know whether the changes they have made have resulted in improved guideline use and compliance? Decisions about what to measure and sample size will be guided largely by the issues identified in the baseline assessment undertaken in phase one (Organisational leadership). The same methodologies used for collecting baseline data can be used to collect post implementation data, to enable a comparison between pre and post implementation results, which will likely provide the most useful indication of progress.

For each recommendation being implemented, there should be agreement amongst the team about *what is actually being measured*. For example, if the aim is to see an improvement in the wearing of PPE, what does this mean? Is it simply that staff are wearing PPE, or is it that the equipment is put on, taken off and disposed of in the appropriate manner? Do all team members have a shared understanding of what is meant by compliance with this guideline? These issues should be discussed and agreed before data collection begins.

Link to the AICG:Surveillance

This chapter should be read and considered in conjunction with Section C of the AICG, which outlines issues that should be considered in surveillance activity within organisations. Readers can also refer to the reference and resources list at the end of this toolkit for links to a number of websites that provide the information regarding surveillance activity.

5.2.2 Process measures

The aim of the **process measure** is to obtain a snapshot of progress in relation to improvement of infection control practices and techniques. If process measures demonstrate positive results, there is an increased chance that there will be a concurrent improvement in outcome. Process measures are generally relatively straightforward (see Table 5.2 for examples).

Table 5.2 – Examples of process measures

Quantitative data

- % of staff educated and trained in hand hygiene
- % of staff educated and trained in infection control practice and guidelines
- % of patients assessed for infection control risk
- % of staff vaccinated
- % of opportunistic patient immunisation
 - observational studies of compliance E.g. sharps protocol, standard precautions, transmission based precautions
- Audit
 - hand hygiene compliance
 - surgical patient preparation E.g. appropriate hair removal per procedure
 - antibiotic prophylaxis, timing and duration.

Qualitative data

- patient experience of care
- staff evaluation of infection control training and education
- staff opportunities for and access to learning
- responses of staff to audit results.

5.2.3 Outcome measures

The purpose of measuring outcomes is to determine the overall effect or result of your program or to answer the question - have the interventions worked? (NHMRC, 2000).

Surveillance activities provide an example of outcome measures that may form part of the evaluation plan. For many organisations, surveillance activities will already be part of the system of care, for example as part of the quality and safety mandatory reporting requirements of individual states and jurisdictions, or accreditation reporting. The advantage of using existing outcome evaluation processes are that criteria for selection and collection of data are already in place, and these have been established and tested , and time and resource costs associated with the development of new tools are limited (RNAO, 2002). However, surveillance data are not the only measures that can be used to monitor outcomes. The NHMRC implementation toolkit (2000) suggests that outcomes of an implementation project can be assessed in terms of change in behaviour. Some examples might include:

- Have clinicians changed their practice in relation to the wearing PPE?
- Has there been a reduction in inappropriate antibiotic prescribing?
- Has there been an improvement in the uptake of immunisation for staff?

The range of outcome measures chosen will depend largely on the focus of implementation, as well as the size and type of facility. As with all phases of implementation, the project team should liaise with key stakeholders to determine the best outcome measures.



Helpful hint: **Measuring outcomes across** multiple facilities

When comparing data between clinical areas or facilities, make sure that the same standardised definitions, risk assessment and reporting systems are used, and that everyone working on the project has a clear and shared understanding of what these are. When the results are presented, if the methodology and definitions are not clear and consistent, there will be a question around the validity of the results, and the findings may be challenged.

5.2.4 How and when should data be collected?

Once again, this will depend on the size of the facility, and the patient population - however in all cases there should be a plan for regular collection and analysis of data. At a minimum, data should be collected at baseline, and then a set time following the introduction of new interventions or changes, so that comparisons can be made before and after each intervention. Consideration should be given to the time needed to enable change to occur.

5.2.5 How much information is needed and how will it be recorded?

The amount of data needed to provide measurement for improvement is very different to the requirement of research. According to the Institute for Health Care Improvement (http://www.ihi.org/IHI/Topics/Improvement/ ImprovementMethods), measurement for improvement requires that "just enough data" is gathered to know whether changes made are leading to an improvement and to make sensible judgments as to next steps. The NSW Health "Easy Guide to CPI" (2002) recommends the following steps be considered to help make measurement more simple and effective:

- plot data over time
- focus on measures directly related to your aim
- use sampling to collect data

- provide information and training
- create simple graphs
- refine the data collection process.

Sampling is a simple way for a team to obtain an understanding about how a change is working. One approach to sampling is to collect data at set times during the week or on set days (NSW Easy Guide, 2002). In this way, teams can gather "just enough data" to enable them to review project progress.

A summary of the measures that Facility A could use to monitor progress is provided in the box below:

Facility A:

- Within 3 months 100% of central line insertions will be in accordance with the checklist of recommendations
 - collect central line checklists audit all
 - ask staff about experience of learning, access to training, benefits (survey sample)
- Within 3 months all central line trolley equipment will be stocked according to the equipment checklist 100% of the time
 - audit all trolleys in one unit at different times/different days
- Within 12 months the incidence of new acquisition of MRSA (multi-resistant S. aureus) will be consistent with national benchmarks/peer groups
 - surveillance data
 - survey staff about experience and outcomes (sample)
 - survey patients (sample)
- Within 2 years our improvements will have been sustained
 - central line checklists audit sample
 - audit all trolleys in one unit at different times/different days
 - surveillance data
 - · repeat survey with staff and patients.

5.3 Analysing results

Key stakeholders should be part of the analysis, as they have a working knowledge of the workplace environment, and can review data and provide insights into the context, and advice regarding what the data might mean in relation to a specific clinical unit or department. If the team are pleased with progress, and there seems to be a general trend toward improvement, they may decide to continue with the existing implementation approach. Where there has been no change or improvement the team should consider reasons for this in collaboration with stakeholders. It may be that it is too soon to expect a change, that there are other initiatives in progress within the organisation, or that more information is needed about a particular clinical setting and the barriers in that specific context.

Lessons learned: Facilitating feedback

It can be helpful to involve staff from individual departments and units when giving feedback from audit results. It helps them to identify issues and take ownership of any problems, and also to engage more in a project. Useful questions to ask are:

- how do the results compare to the initial expectations?
- where has there been the most improvement or change?
- what stands out about the results are there any surprises?
- what do the results tell us is going well?
- what do they tell us is not going well?
- what other information is needed?
- if there was one thing you could change about these results, what would it be?
- how would you go about improving the results in your ward, unit, or facility?

Project manager

5.4 Providing feedback about progress

Audit and feedback as an enabling factor in guideline implementation was discussed in phase two. Teams need to consider how data will be presented to the organisation, in what forum and format. They should also consider whether feedback will be given to individuals, teams or the organisation overall, and what comparisons will be used - such as past performance, peers, or benchmarks (Carey et al, 2009). It is highly likely that formal presentations to all staff in the organisation will not be able to be provided - the team will need to consider creative methods and forums (see phase three for communication ideas). In some cases it will be enough to show project progress by simply displaying results, and including contact information for the project team so that staff who have further questions about the data can contact team members individually. It is advisable that project teams maintain some information in presentation format, so that it can be accessed and used readily if required. It may be useful for electronic presentations to be placed on the organisational intranet, or sent as an email attachment in PDF format. A simple presentation outline is provided in Table 5.4:

Table 5.4 Sample presentation outline

- Overview of the problem
- What was done
- How it was done
- Who was involved
- What was found
- What was learned
- What are the next steps

Adapted from NSW Easy Guide to CPI, 2002

To keep momentum going, be sure to build in processes to acknowledge progress in pilot areas, and once the implementation spreads to other departments, across the facility. The project team should ensure there is due recognition of the contributions and successes of all staff, units and departments participating in the project and that these are made public. This will provide incentives to staff to continually improve and champion the process. Ways to celebrate progress might include provision of refreshments at the end of shifts, or providing awards or certificates of appreciation.

5.4.1 Issues in sustainability – sustaining the gains when the "project" is over

Any clinical environment in today's health care system has a certain degree of complexity and has to respond to significant change. Such change can impact on good progress made - for example project leaders may leave an organisation to take on new roles, other projects may take priority over existing ones, and peak periods of activity can take the focus away from the guidelines and improved practice (OSSIE guide clinical handover, 2010). Determining measures that can be used to monitor progress in an ongoing way, and developing a system for regular feedback of results, is pivotal to maintaining use of the guidelines in practice in the long term. Remember to build improvement measures into the system of care, as this will improve the likelihood that any gains made as part of the implementation activity are maintained.

Lessons learned: Sustainability

Every so often it is important to find a way to relaunch the initiative, give it a new look, refresh it in some way so that enthusiasm is renewed amongst long-term staff and new staff are introduced to the initiative and made aware of the outcomes and monitoring strategies.

Deborough MacBeth, ADON, Infection Control Gold Coast Health Service District

5.5 Tools and techniques

5.5.1 Evaluation plan

Adapted from Registered Nurses' Association of Ontario (RNAO, 2002)

Toolkit: Implementation of Clinical Practice Guidelines (© RNAO)

Step	Actions	By who?	By when?	Resources needed	Progress measures
Identification of monitoring processes Quantitative and qualitative Establish baseline Set measures to monitor progress Frequency and timing of data collection	Examples: Education on audit tools for unit/dpt reps Gather baseline data before launch date Examples:				
How, when, where will data be collected	Collect checklists weekly – ICU and operating theatre				
Feedback schedule Level of feedback (Individual, team , organisation) Data comparisons Timing and frequency of feedback Method of feedback (presentations, email, etc) PDSA Study results from pilot Proceed to widespread implementation Report and respond to	Examples: Display progress for each unit prominently Display progress compared to baseline Monthly progress on posters and Intranet Monthly update to exec – email with graphs attached Examples: Trial on 1 unit				
Celebrate short term wins Plan for celebration to mark milestones.	<i>Examples:</i> Afternoon tea with exec for first unit to reach target Spread results across hospital with FYI email Profile in patient and staff newsletter				

Conclusion

6.1 A final word ...

This concludes the five phases of OSSIE. It is hoped that working through this toolkit has enabled some new learning about implementation and provided some practical tools and ideas for implementing the AICG in your facility.

The project team may want to consider developing a more comprehensive project plan that is approved and signed off by the senior executive in the facility. While the action plan templates provide details of work breakdown, a comprehensive project plan is a document that brings together information about the main goals of the project, details of people working on the project, risk assessment details and issues around constraints and resources. Bringing all of the planning information from OSSIE together in a project plan can be useful to enable both executive teams but also project teams to keep their eye on the goal of implementation and monitor progress. At the same time, it should be remembered that project plans may need to be adapted, as new learning about the best methods of guideline implementation for each specific facility becomes available.

A project plan template is provided on the next page.



6.1.1 Project Plan template

Adapted from: National Organ Donation Collaborative, National Institute for Clinical Studies (NICS) Project planning worksheets (with permission)

Project title:	
Project aim:	Key message – to reduce HAI to below the national level through implementation of the AICG
Background: Why is the project important for your health service?	
Benefits: Outline the benefits of reduced HAI to the organisation in terms of time, money, resources	To the organisation – cost, resources, OH&S, accreditation and numerical profile standards
	To patients – decreased length of stay, potential for enhanced outcomes, improved recovery through decreased complications
	To staff – reduced risk of illness through infections acquired in the workplace
Objectives: Note: Use SMART objectives.	
This project will include:	
E.g. which wards, clinical units or departments will be included in implementation – or will it be an all of organisation approach?	
Success measures:	
How you will measure the success of the project?	
(this will be developed from the evaluation action plan – phase five)	
Resources:	
What resources are required to undertake the project? (developed from resources worksheet, phase one)	
Related projects:	
Are there opportunities for this project to gain leverage from or provide support to other projects already underway? E.g. CLAB, HHA	

Project assumptions:	
Circumstances and events that need to occur for the project to be successful but are outside the total control of the project team. They are listed as assumptions if there is a HIGH probability that they will in fact happen.	
E.g. administrative support, executive presence at progress meetings, etc	
Constraints:	
Aspects about the project that cannot be changed and are limiting in nature. Constraints generally surround four major areas: Scope, Cost, Schedule (Time), and Quality	
Work breakdown:	
The work breakdown will be developed from the implementation action plan	
Time frame and milestones: Insert key dates and milestones from action plan	
Risks:	
PROJECT TEAM ROLES	
Executive Sponsor:	
Nominate the Executive Sponsor and outline role	
Opinion leaders and champions:	
List the Opinion Leaders/Champions and summarise role of each	
Project Team Coordinator: Nominate the Project Team Coordinator and summarise/ list key responsibilities and role	
Project Team Members:	
Nominate the Project Team Members and role	
Project contacts:	Name:
List the contact details for key people working on or	Email:
involved with this project	Phone:
Start date:	
Review process:	
Insert details of meeting schedules and review processes	
Anticipated completion:	
Executive Sponsor I have read and reviewed this project plan and agree to support the implementation project.	Name:
	Signature and date:

6.1.2 References and resources

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6.1.3 Useful Links

Links to websites for guideline implementation

Appraisal of Guidelines Research and Evaluation (AGREE) www.agreecollaboration.org/

Guidelines International Network (GIN) www.g-i-n.net/

National Health & Medical Research Council (NHMRC) guideline portal www.nhmrc.gov.au/guidelines/index.htm

National Institute for Clinical Studies (NICS – an institute of the NHMRC) www.nhmrc.gov.au/nics/index.htm

National Institute for Clinical Excellence (NHS) www.nice.org.uk/

Registered Nurses' Association of Ontario (RNAO) www.mao.org

Scottish Intercollegiate Guidelines Network (SIGN) www.sign.ac.uk/

Links to websites for infection prevention and control

Aged Care Accreditation http://australia.gov.au/directories/australia/agedcare-accreditation www.accreditation.org.au/

Association for Professionals in Infection Control and Epidemiology USA (APIC) www.apic.org

Australian Council for Healthcare Standards (ACHS)

www.achs.org.au

Australian Infection Control Association (AICA) www.aica.org.au/default.asp?PageID=46

Australian Society for Infection Control (ASID) www.asid.net.au/

Centers for Disease Control (USA) www.cdc.gov/

Centre for Health Related Infection Surveillance & Protection (CHRISP) Queensland www.health.qld.gov.au/chrisp/default.asp

Clinical Excellence Commission (CEC) NSW www.cec.health.nsw.gov.au/

Hand Hygiene Australia (HHA) www.hha.org.au/

Health Care Infection Control Special Interest Group (HICSIG) www.asid.net.au/hicsigwiki/index. php?title=Main_Page

Hospital Infection Society (HIS) UK) www.his.org.uk/

The International Nosocomial Infection Control Consortium INICC www.inicc.org/english/index.php

NSW Health/Quality & Safety – HAI www.health.nsw.gov.au/quality/hai/index.asp

South Australian Infection Control Service www.health.sa.gov.au/infectioncontrol/

Tasmanian Infection Prevention & Control Unit www.dhhs.tas.gov.au/peh/tasmanian_infection_ prevention_&_control_unit

Victorian Hospital Acquired Infection Surveillance System (VICNISS) www.vicniss.org.au/

Healthcare-Associated Infection Surveillance in Western Australia (HISWA) www.public.health.wa.gov.au/3/277/3/ surveillance hiswa.pm

World Health Organisation (WHO) www.who.int/topics/infection control/en/

Society for Health Care Epidemiology in America (SHEA) www.shea-online.org/

Links to websites providing tools and resources for improvement

Institute for Health Care Improvement (IHI) www.ihi.org/IHI/Topics/Improvement/ ImprovementMethods

Links to websites for patient safety and engagement

Institute for patient and family centred care (USA) www.ipfcc.org/

World Health Organisation (WHO) www.who.int/patientsafety/en/



