OSSIE Guide
to Clinical Handover
Improvement

O	=	**Organisational leadership**
S	=	**Simple solution development**
S	=	**Stakeholder engagement**
I	=	**Implementation**
E	=	**Evaluation and maintenance**

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Clinical
Handover

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The core of this improvement guide comes from the workplace-based research and handover redesign performed by:

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- Western Australia Country Health Service and Royal Perth Hospital led by Ms Jill Porteous and Dr Edward Stewart-Wynne.

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Foreword

Clinical handover is a high risk area for patient safety and therefore a priority project for the Australian Commission on Safety and Quality in Health Care.

The *OSSIE Guide to Clinical Handover Improvement* combines research, consensus opinion and consultation.

In March 2009, the Commission released a consultation edition of the OSSIE Guide. It was developed mainly from the lessons and recommendations of 14 projects funded by the Commission, but also from seminal work at the University of Tasmania, the Royal Hobart Hospital, the Western Australia Country Health Service and Royal Perth Hospital.

Thousands of copies of the consultation edition were distributed and downloaded from the Commission's website.

We are particularly grateful for sound and practical feedback advice from healthcare professionals in all states and territories. Some requested a smaller version of the guide for busy front-line clinicians and we will provide this.

We are also developing educational materials for those leading handover improvements in their hospitals to improve colleague engagement and communication.

Interest and momentum in handover improvement is growing rapidly throughout the healthcare system: in all jurisdictions, in local health areas, in educational institutions and among front-line clinicians.

In April 2010, the guide was endorsed by Australian Health Ministers as a national guide to improving clinical handover practices at shift change in a hospital setting.

We know this guide will enhance the improved clinical handover movement.

I commend the enthusiasm and determination of those involved in the preparation of the guide.

Yours sincerely

William J. Beerworth
Chairman
Australian Commission on Safety and Quality
in Health Care

Clinical handover projects funded by the Australian Commission on Safety and Quality in Health Care

- Bedside Handover and Whiteboard Communication, Griffith University Research Centre for Clinical Practice Innovation, Queensland Health Patient Safety Centre and Peel Health Campus, Western Australia
- Implementing written and verbal handover to ensure optimal transfer of patients from country to metropolitan health services, Western Australia Country Health Service and Royal Perth Hospital
- Inter-professional Communication and Team Climate in Complex Clinical Handover Situations (in the Post Anaesthesia Care Unit): Issues for Safety in the Private Sector, Deakin University in collaboration with Epworth, Cabrini and Alfred Hospitals
- Revolving Doors – Effective Communication in the Handover of Mental Health Patients to Community Health Practitioners, St John of God Health Care – NSW Services
- SHAREing Maternity Care – Clinical Handover between Visiting Medical Officers and Midwives, Mater Health Services Brisbane Limited
- The Development of SOPs and Educational Resources for Shift-to-Shift, Medical and Nursing Handover, Royal Hobart Hospital and University of Tasmania
- Transfer to Hospital Envelope, North East Valley Division of General Practice
- ISBAR revisited: Identifying and Solving BARriers to Effective Handover in Inter-hospital Transfer, Hunter New England Area Health Service
- Improving Residential Aged Care Facility to Hospital Clinical Handover, GPpartners
- Development of e-Learning Strategy for Safe Clinical Handover, University of Queensland Centre for Health Innovation and Solutions, Queensland Health Patient Safety Centre and Med-E-Serv Pty Ltd
- TeamSTEPPS™, South Australian Department of Health Clinical Systems Unit and South Australian Health Services
- The PACT Program – Communication Training and Team Training to Support Handover, Albury-Wodonga Private Hospital – Ramsay Healthcare
- The Use of Reflective Video to Improve Handover, UTS Faculties of Humanities and Social Sciences, Nursing, Midwifery and Health and Adult Education; University of Melbourne School of Nursing
- SafeTECH – Safe tools for electronic clinical handover, South Australian Department of Health, University of South Australia and University of Tasmania

Clinical handover – some facts

- Clinical handover is a high risk scenario for patient safety. Dangers include discontinuity of care, adverse events and legal claims of malpractice (Wong et al, 2008).

- A survey of Australian doctors revealed that 95% believed that there were no formal or set procedures for handover (Bomba & Prakash, 2005).

- An Australian study of emergency department handover found that in 15.4% of cases not all required information was transferred, resulting in adverse events (Ye et al, 2007).

- A survey of junior doctors in the United Kingdom discovered that 83% believed that the handover process was poor. Written handover was rarely received, accounting for only 6% of all handovers (Roughton & Severs, 1996).

- A detailed analysis of nursing handover revealed that some handovers promoted confusion and did not assist in patient care (Sexton et al, 2004).

- Handover is among the most common cause of malpractice claims in the USA, especially among trainees accounting for 20% of cases (Singh et al, 2007).

- A survey of trainees in the USA suggested that 15% of adverse events, errors or near misses involved handover (Jagsi et al, 2005).

A full literature review on clinical handover is available at **www.safetyandquality.gov.au**

Clinical Handover: Critical Communications, a supplement issue of the Medical Journal of Australia, is available at **www.mja.com.au**

Patient care is complex. One element of this complexity is the number of contacts and transitions undertaken by patients. The graph below shows that approximately 7,068,000 handovers occur annually in Australian hospitals.

Figure 1: Estimated numbers of handovers conducted in hospitals
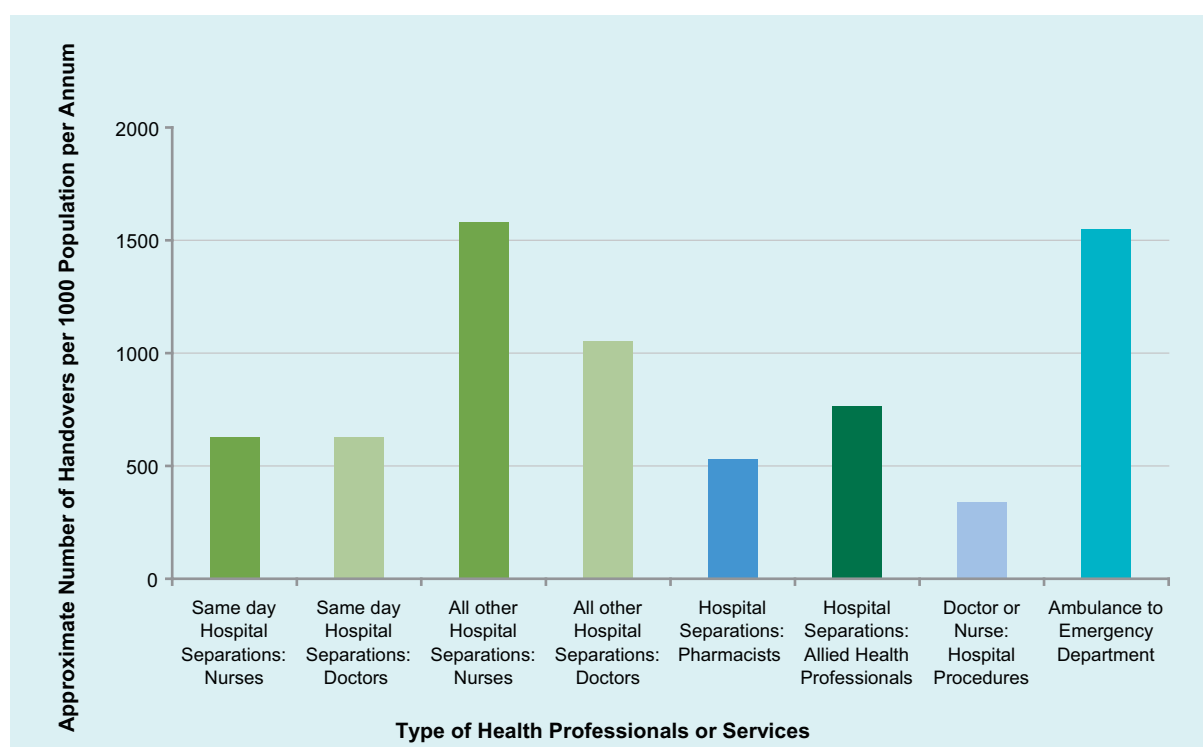
(ACSQHC, 2008)

OSSIE terms

Clinical handover

Clinical handover is the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis. This definition of clinical handover formed the basis for all the activities and work carried out as part of the National Clinical Handover Initiative. This guide also refers to clinical handover as simply 'handover' or 'handover communications'.

Emotional intelligence principles

Emotional intelligence refers to the ability to monitor one's own and others' feelings and emotions and use this information to guide thinking and actions. Characteristics of emotional intelligence include: self-awareness, self-regulation (including reflection and adaptation), self-motivation, social awareness and social skills. Emotionally intelligent leaders can motivate team members to work more effectively, build intrapersonal and interpersonal trust and implement team goals.

Empowerment

The term 'empowerment' is used in this guide to refer to clinicians developing confidence in their own capacities to contribute to the improvement process. This will ensure the new process for handover is supported by the clinicians who will be using it. Without clinician support, the new process has little chance of success over the long term.

Flexible standardisation

This guide advocates for the standardisation of handover processes to improve the safety of handover. However, the guide emphasises that the particular local context of the unit, ward and institution needs to be integrated into the design of the standardised process (i.e. 'flexible standardisation').

Iterative

Within this guide iterative refers to the continual need to improve handover. Handover is a dynamic practice and should be treated as an evolving process. For example, six months after unit A introduced ISOBAR for individual patient handovers, they were able to purchase an electronic whiteboard to support the process. Further work was then required to ensure the safe and effective use of this new feature of the handover process.

Minimum data set

This guide refers to the minimum data set as the minimum content that must be contained and transferred in an individual patient handover. There are many possible minimum data sets for handover. Refer to chapter four for additional details.

National Clinical Handover Initiative

The Australian Commission on Safety and Quality in Health Care established the National Clinical Handover Initiative with the aim of improving clinical handover communication across all healthcare settings. A pilot program was set up as part of the initiative to develop and implement tools and solutions to improve clinical handover.

OSSIE

OSSIE is a mnemonic, which actually equates to a framework for change management. Each letter in the mnemonic stands for a change phase: Organisational leadership, Simple solution development, Stakeholder engagement, Implementation, Evaluation and maintenance. The phases aim to provide readers with all the information required to successfully introduce and sustain improvement to clinical handover.

User-centred

User-centred design is a design philosophy and process in which the needs, wants and limitations of the end user of a product or process are given extensive attention. The intent is to design around how people can, want or need to work.

1
Introducing OSSIE

Clinical handover is an integral part of clinical care, practised in a multitude of ways, in all healthcare settings, every day. Failures in clinical handover have been identified as a major preventable cause of patient harm. Poor handover can also lead to wasted resources. Consequences include: unnecessary delays in diagnosis, treatment and care; repeated tests, missed or delayed communication of test results; and incorrect treatment or medication errors.

Current handover processes are unreliable and highly variable. Standardisation of handover content and process will improve the safety of handover by ensuring consistency in critical information exchanges.

Clinical handover is:

'**the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis**'

Australian Medical Association in their 'Safe Handover: Safe Patients' guideline (AMA, 2006) and United Kingdom National Patient Safety Agency (2004)

1.1 What is the OSSIE Guide and who should use it?

'OSSIE' stands for the following five phases:

O = Organisational leadership

S = Simple solution development

S = Stakeholder engagement

I = Implementation

E = Evaluation and maintenance

Achieving sustainable improvement in the processes of health care and in patient outcomes is difficult. OSSIE is a focused change management framework to support implementation of standardised clinical handover. The OSSIE Guide assists readers to design, implement, evaluate and maintain clinical handover improvement programs that contain a standardised process and content data set.

The clinical handover improvement framework presented in this guide is based on research conducted on medical and nursing shift-to-shift handover within an acute care hospital setting. We believe that the principles presented here, however, could guide improvement of other handover situations, including multidisciplinary, primary care and community handovers.

The OSSIE Guide is intended for use by a team working together to achieve the goal of clinical handover improvement. All clinicians can improve their own handover practice, but handover is a group practice and to ensure patient safety, we need to improve the handover practices of all staff.

If a mnemonic is used to organise and plan participation in handover, the safety of patients will improve as critical information is more likely to be transferred and acted upon.

This guide does not provide a quick fix for improving handover. What it provides is direction on how to improve handover by following a series of manageable activities – the five phases of OSSIE.

Resources are required for successful handover improvement. However, many successful clinical handover improvement teams have started with little and found that support and resources could be obtained.

1.2 Why we need OSSIE – handover improvement is a priority

The system for the delivery of healthcare services is very complex. Breakdown in the transfer of information or in 'communication' has been identified as one of the most important contributing factors in serious adverse events. Information transferred between healthcare providers should include all relevant data, be accurate, unambiguous and occur in a timely manner. This information enables actions to be taken to provide the care that a patient needs.

There is an international trend to reduce working hours for staff (especially junior medical officers), as staff fatigue is now recognised as a patient safety risk. The Australian Medical Association has produced guidelines for safe working hours (AMA, 2005). Reduced working hours and the introduction of flexible working hours have led to increases in the number of shifts required and in the number of staff looking after the same patient. This means effective and efficient handover processes have become even more essential.

Many hospitals do not have a clear policy for effective handover and practice is highly variable. Shift-to-shift handover amongst medical staff is not a well defined process. The nursing profession, on the other hand, has a long tradition of practising shift-to-shift handover – although there is still room for improvement in order to optimise the accurate transfer of information, responsibility and accountability. Interdisciplinary handover can be very effective but it is less common.

1.3 The evidence-base for clinical handover is limited

There are many aspects of handover which are largely unstudied. Many questions can be asked for which there is no evidence-based answer, such as:

- Which are the most important communications?
- Which communications directly or reliably correlate with action for patient care?
- Is information being delivered in multiple ways or at multiple times, leading to redundancy?
- Does that redundancy add to safety or make it more likely that important information is not acted upon?

Handover is a complex and wide area of study. Handover communication occurs via different modalities and at different points throughout the process of care. Reflect for a moment on an in-patient during a single hospital admission and consider how much sharing of clinical information occurs related to patient care. These communications include: what is written in the medical record and other charts (e.g. medication, fluid balance); what is written in a handover record; and what is discussed during ward rounds, handovers and by staff in informal conversations.

The issues for a patient with chronic illness, multiple admissions and care in both public and private institutions and by multiple specialist teams are even more complex. Solutions to improve handover safety in these specialised circumstances are not discussed in this edition of the OSSIE Guide to Clinical Handover Improvement. Many require development of our e-health infrastructure.

Although there has been a proliferation of handover literature in recent years, research into best handover practice for different clinical situations is ongoing. The lack of an established evidence-based structure, in terms of content, process and information tools, has led to handover being a highly variable and 'individual-dependent' process. It is within this context that the OSSIE guide has been developed. However, two important evidence-based principles for best practice in handover are emerging: face-to-face communication and documentation.

Face-to-face communication

Face-to-face communication provides more opportunity to clarify information. A simple communication technique is 'Read-back' or 'Check-back' (US Department of Defence, 2005). The person receiving information can verify it by repeating the information and the sender can confirm that it has been understood correctly.

As well as handing over patient information, face-to-face handover can lead to opportunities for social interaction, education and team building. O'Connell and Penney (2001) say that handover is where 'nurses can debrief, clarify information and update knowledge.'

In one study, verbal handovers via tape recorder were found to be briefer and did not fully reveal the patient's overall condition (O'Connell & Penney, 2001). This may lead to staff then spending more time finding and clarifying information about the patient.

Documentation

Studies have shown that verbal handovers are more commonly used than written handovers (see for example Roughton and Severs, 1996). In research conducted by Manias and Street (2000), the majority of nurses also used handwritten notes during handover, while medical staff were found to prefer verbal conversation handovers (Bomba & Prakash, 2005).

Engaging in verbal handover only, compared to verbal handover with some documentation, relies heavily on memory skills and has been classed as a high risk strategy (Bhabra et al, 2007). The performance of doctors on simulated handover cycles showed that only 33% of information was retained after the first handover cycle and only 2.5% of information was retained after five handover cycles (Pothier et al, 2005). However, using pre-prepared data sheets resulted in the full maintenance of data.

Improved documentation of handover can also have the benefit of minimising repetition and can reduce the length of handover.

1.4 Foundations of the OSSIE Guide

The OSSIE Guide originates from workplace-based research and teaches handover standardisation that is customised for the workplace. The guide calls this flexible standardisation. Central to the foundational work that informed this guide is the inclusion of a user-centred approach and iterative feedback to help design a standardised handover process and content that is sustainable.

1.4.1 Workplace research

The core of this improvement guide comes from the workplace-based research and handover redesign performed by two of 14 teams involved in the Australian National Clinical Handover Initiative.

The Royal Hobart Hospital and University of Tasmania (RHH/UTAS) developed the OSSIE concept. This group has been conducting research on shift-to-shift handover since 2004. The seven researchers included nurses, doctors and information systems experts: Kwang Chien Yee, Ming Chao Wong, Paul Turner, Jolene Robertson, Sharee Eldridge, Helen Courtney-Pratt and Diana Coombes. The work was supported by a six-member steering committee and a 20-member expert support team.

What does standardised handover look like?

Under an effective standardised handover process all participants know the purpose of the handover and the information that they are required to know and communicate. They know what documentation is required. Senior staff make sure handover keeps the form that has been agreed by the clinical unit to be best for patient safety and unit efficiency. They do this, for instance, by ensuring that participants in a routine verbal handover are free to attend, attend on time, and deliver the relevant information. Relevance is determined by considering what information staff need to communicate to transfer responsibility and accountability. Staff handing over to the next shift communicate the actions and degree of vigilance required to ensure the patient is cared for safely.

Their data collection process included 120 observation sessions, 121 interviews, 200 hours of shift shadowing and analysis of more than 1000 patient handover records. The RHH/UTAS team conducted a detailed literature review (217 articles) which is published at **www.safetyandquality.gov.au**.

The standardised clinical handover process developed by the RHH/UTAS team is summarised as 'HAND ME AN ISOBAR' (refer to section 4.3 for more details). This guide uses the principles found within this handover process.

The Western Australia (WA) Country Health Service and the Royal Perth Hospital team led by Jill Porteous (with Pauline Crommelin, Ted Stewart-Wynne, Madeleine Connolly and Adele Lake) developed the ISOBAR concept to meet the needs of handover for inter-hospital transfer. ISOBAR proved an excellent mnemonic and was highly effective in helping staff in WA regional areas improve their handovers. ISOBAR is now in widespread use in many institutions for both shift-to-shift handover and to guide phone communications with medical staff. ISOBAR also proved a good fit for the minimum single patient handover content set developed by the Tasmanian team (and some of the other teams).

1.4.2 User-centred approach

The guide emphasises user-centred approaches to design and user engagement in the quality improvement process. New processes imposed on clinicians often fail because they do not fit easily into clinical practice. So study of the practices and views of handover 'users' – the clinicians involved in handover – is crucial.

It is important that when clinical staff are engaged to improve handover, their views are obtained and respected. In fact, all clinicians must be engaged through the whole process in order to achieve the best outcomes. If clinicians feel that their views have been incorporated, they will take ownership of the situation and the change is more likely to be sustainable.

1.4.3 Flexible standardisation

The OSSIE Guide provides an approach to improving the safety of handover. Clinicians need to understand their own work and organisational context in order to best utilise the evidence on better handover. The standardisation that is chosen needs to fit the particular needs of the patients and staff who are the participants in handover. These needs vary widely as clinical units may have specialised and differing functions (e.g. a neonatal unit or stroke unit). Even units with a similar purpose, for instance general adult intensive care units, vary in size and physical layout and their patient populations can be very different. Staffing is even more variable – between country and city, public and private, teaching and non-teaching institutions. The types, award conditions and numbers of health professionals also vary. Medical officers who are responsible for care may not be on site or may be on site but not available for handover.

Handover between units or institutions adds its own complexity. A transport team may be involved, requiring extra communication steps and there may also be delay during which the patient's condition may deteriorate. Inevitably the priorities, culture and staffing ratios of different units vary in ways that can add risk to handover (e.g. a patient transfer from high acuity areas with high staffing ratios such as the emergency department to a general medical or surgical ward).

This guide emphasises the need to engage staff and to develop a solution that fits with local culture and clinical practice. The need to deliver standardised solutions for better patient outcomes is also recognised. Adding unnecessary time, work or complexity to handover could decrease patient safety, the quality of care delivered and staff satisfaction. Therefore, standardisation in handover has to have the clear intent of ensuring patient safety and harmonising with local needs and work practices. This guide provides guidance on implementing a standardised process for handover, tailored for a local context.

1.4.4 Iterative feedback

Due to the complexity of our healthcare system, it is difficult to fully predict the effects of any process improvement intervention. The iterative feedback process, as demonstrated in Figure 2, allows improvements to respond to changing circumstances and/or consequences, as well as ensuring continual and increasing engagement of clinicians. This is similar to the better known PDSA cycle of 'Plan-Do-Study-Act'.

The process of iterative feedback is time consuming and at times frustrating but it is also essential to engage clinical staff and maintain their commitment to improving clinical handover. If a good initial understanding of the current clinical handover process is assembled then the number of iterative cycles may be reduced.

Figure 2: Iterative feedback process
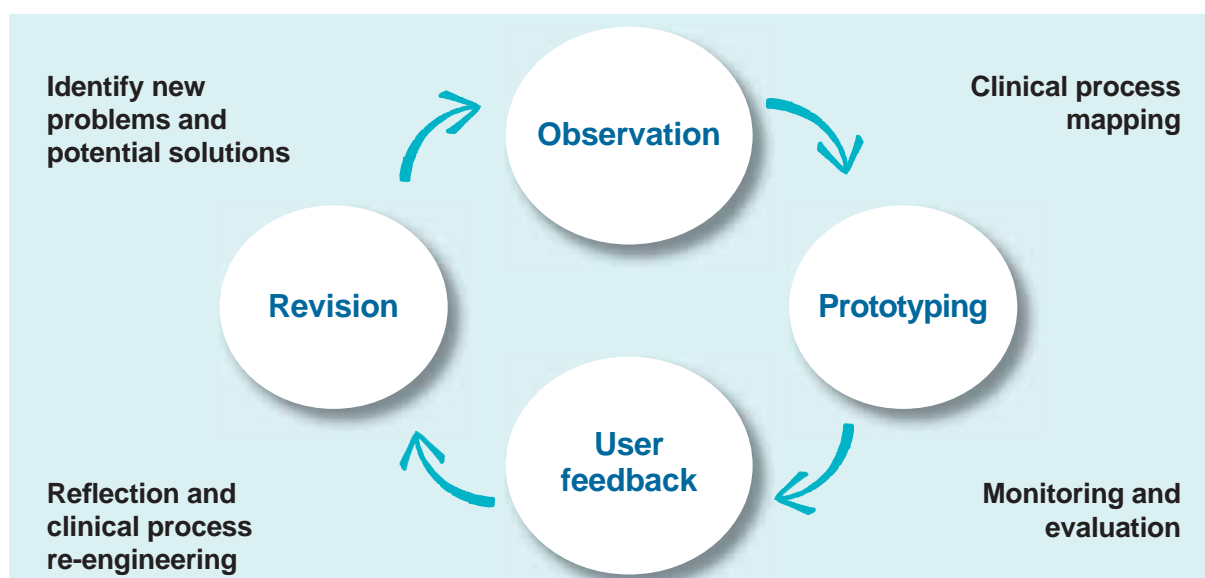
(Yee et al, 2009)

Planning for OSSIE

2.1 Resources needed for the five phases of OSSIE

2.2 Establishing a team

The OSSIE Guide is designed for use by a team working together to achieve the goal of clinical handover improvement. While individual enthusiasm and efforts to improve clinical handover are welcome, it is unlikely that individuals will be able to drive adoption of a standardised process, or sustain a long-term change for a unit or an organisation. The high turnover of staff in health care, as well as staff on rotation or relieving in other locations, may also work against sustained success in isolated units.

Adequate resources must be provided and the handover improvement should be linked to the organisation's governance and accountability arrangements. Organisational reform attempts are more likely to be successful if aligned to the organisation's aims, values and safety and quality plans.

2.1 Resources needed for the five phases of OSSIE

Phase 1: Organisational leadership

This phase is resource intensive. It includes obtaining the views of as many participants as possible and promoting the handover improvement process. In this phase, resource requirements should also be identified for the remaining phases of the clinical handover improvement process, including dedicated staff time, communication and tool requirements and training. Clinical and managerial leads should be identified and all key staff in the organisation should be briefed.

Phase 2: Simple solution development

This is the most resource intensive phase as it involves user-centred design principles, meaning that the success of this phase is dependent on the number of participants who have input into the design. These opinions will differ and must be reconciled to produce a solution that provides standardisation.

Phase 3: Stakeholder engagement

This phase lasts for the duration of the project. Due to regular movement of staff, stakeholder engagement must be a continual process to ensure success.

Phase 4: Implementation

This phase is time consuming and constant communication is required from the project team. There are many change management and team based tools available to encourage clinical engagement. Opportunities for creative team building should be taken. Constant reminders and support are required to get staff to incorporate new practices into their routine work, as changing behaviour takes practise. Evaluation should not happen early in the implementation phase as it will not reflect the real impact of the program.

Phase 5: Evaluation and maintenance

An ongoing improvement plan will ensure future adaptation of the standardised solution to changing clinical contexts and practices. Evaluation and maintenance require significant resources and time.

> **'I think the implementation of a program is going to take much longer than we originally thought… it'll be about six months before you see any change and about 12 months really and you've got to commit resources to that.'**
>
> *Participant, November 2008 clinical handover workshop*

Figure 3: Time-resource chart
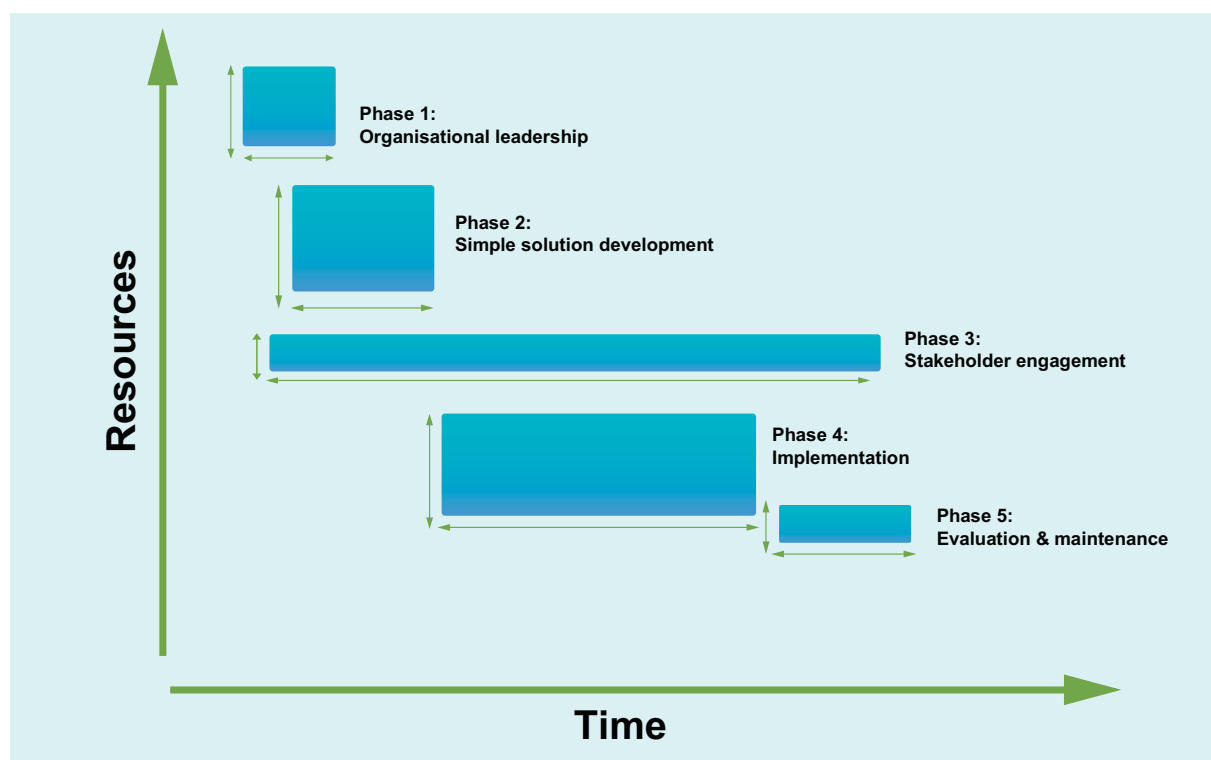
Time and resource requirements need serious consideration. In the illustrative time-resource chart above (Figure 3), the length of the bars represents the estimated time required and the height of the bars represents the estimated resources required. The resource requirement is more intense at the beginning of the handover improvement process but it will vary considerably based on the size and complexity of wards, units and organisations.

The total time required is dependent on factors such as the resources available, the preparedness of the unit or organisation, the availability of individuals to commit to the project and the size of the unit or organisation. It is recommended that at least 12 months be allowed for the whole project.

2.2 Establishing a team

While the exact number of members and the skill mix within any team will be variable, it is suggested that the following be sought at the beginning of the project:

● A project leader

The project leader should be a clinician who has strong interest in quality improvement and clinical handover.

● Senior support

A senior support person can guide the team through organisational policy and the establishment of organisational support.

● Quality and safety expertise

Quality and safety expertise will ensure that the project follows the local quality and safety frameworks and dovetails with other local improvement projects. Systems and change management expertise can be brought in during the implementation and adaptation phases. It is, however, desirable that individuals with these skills are involved from the beginning. This is especially important if the handover improvement involves new electronic tools.

● Clinician champions (or clinical leads)

Clinician champions assist with staff engagement and empowerment.

● Education expertise

Improving handover requires significant effort in educating and training clinicians. Educational expertise will assist with this process.

● Patients, carers and consumers

Involve a patient or carer on the project team. Alternatively a team member may provide or coordinate input from patients, carers or consumers (for instance, this can be sought by interview). The need for this perspective should be considered from the beginning of the project and hospital consumer advisory committees may be able to assist.

● Project team training

The project team should undergo appropriate professional development and necessary up-skilling through invited training sessions and expert advice from external consultants (e.g. change management consultants) at the beginning of the project.

Remember to consider that some team members may be involved in multiple improvement projects at one time. If improvements to handover are to be successful, quarantine time for the project will be required.

Case study: team composition

Example 1

Hospital A wishes to implement a formal end-of-term handover for junior doctors.

The project team includes a project leader (the director of clinical training), the quality and safety officer and representatives from the junior doctors and from the specialty supervisors for junior doctors.

Example 2

Hospital B is having problems with the handover between ambulance officers and the emergency department nursing staff.

The project team includes a project leader (the nursing unit manager), the triage manager, a nursing educator, ambulance officers and the medical director of the emergency department.

Example 3

Hospital C is interested in implementing an electronic clinical handover platform for medical handover.

The project team includes heads of the medical department, a project leader, a clinical change champion, a quality and safety officer, educators, hospital information technology managers and change consultants.

Information technology designers and information systems experts are required during the design and implementation phase of the project. The software company provides information technology designers and the information systems experts from the local university agree to participate.

3 Organisational leadership – Phase 1

Clinical Handover

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Phase 1 begins once a team has been established, resources are identified and team members understand the rationale for the need to adapt standardised solutions to improve clinical handover.

During this phase it is necessary to emphasise that clinical handover improvement is a priority. It is important to recognise that for clinical practices, like clinical handover, many staff might not realise the need to change. Leadership needs to be demonstrated through obtaining a clear understanding of the current clinical handover practices; assisting staff to understand the rationale for change; and identifying motivators and barriers for change.

An analysis of the risks of existing and proposed practices is required. Different or tailored project teams and solutions might be required for different wards or clinical areas within the same organisation. Empowerment of staff through the clinical handover improvement program is essential for long-term success.

> **'It's about identifying what your issues are and also what the strengths are at the sites. You may be doing some things really well. You don't want to throw everything out in the change.'**
>
> *Participant, November 2008 clinical handover workshop*

3.1 Objectives of this phase

During this phase the team seeks to:

● Prioritise the clinical handover improvement process

The success of the handover improvement initiative is dependent on its priority within the local clinical unit and within the institution. It is important to identify other quality and safety projects and potential future changes to clinical practice to avoid creating 'change fatigue' among staff. Ideally, clinical handover improvement should be aligned with the organisational strategic vision and other quality improvement projects.

● Understand local practice from the clinicians' perspective

This should include the context (e.g. team work environment, multidisciplinary care), content (e.g. information exchanged) and process of current handover practices. Some individuals may have very good insights and ideas for improvement. These should all be taken into consideration in the design and implementation process.

● Understand the motivators and barriers for change

This process should include the identification of barriers as well as the motivators for change. These may include environmental factors (e.g. busyness of the ward and ward culture), technological factors (e.g. availability of electronic medical records and health professionals' proficiency with these records) and human factors (including staff adherence to existing systems and competing work tasks).

● Provide leadership by helping staff to understand the rationale for change

For your clinical handover improvement initiative to be successful, staff need to understand the rationale for change. This involves gathering information about local experience to construct a compelling rationale for change. Adverse events and data about their own practices (e.g. length of time spent in handover or video footage of handover practice) are the most powerful material for convincing clinicians of the need for change.

● Lead through empowerment

Leadership needs to be provided to clinicians through empowerment, utilising emotional intelligence principles, as well as leadership training and strategies to reward good performance. For examples on how this can be done, refer to chapter five on stakeholder engagement.

3.2 Learning about current handover practice

A full understanding of the current clinical handover practice should be developed during the organisational leadership phase of the project. There should be a collaborative, problem solving approach to this phase. Clinicians must be given reassurance that the process is non-judgemental and that the observation findings will not be used for personal performance evaluation. Failure to engage clinicians at this stage will have a significant impact on future progress.

There may be differences in perception between management and senior and junior clinicians. If so, these need to be documented. There are often differences between the perceptions of clinicians and the real-life practice of handover (as measured using observational techniques). We rarely do what we say we do. It is critical to identify and understand these gaps before proceeding to solution design.

Case study: understanding handover

Research revealed the importance of observation sessions and of interviews.

Interview with senior clinician

'The handover process is orderly. Most consultants, including myself arrive on time and handover starts at 8 am. It then goes through a fixed format with opportunities for everyone to speak and be involved in the process.'

Interview with junior clinician

'It is generally speaking quite good. Sometimes it starts a bit late and we as the juniors often do not participate much in the process.'

Observation session six

'8.05 am. Handover had been completed as the consultant arrived early and started the process at 7.50 am. There were only four people in the room and most staff had not arrived by the completion of the handover session.'

At the end of this section there are tools that can help with the systematic analysis of handover practices. The team should use these tools to help them answer the following 10 questions. Answering each of these questions helps with the design and implementation of solutions for clinical handover improvement.

1. What type of handover is currently practised?

The current practice of handover should be clearly described (e.g. office based discussions, bedside, tape recorded). The content is commonly transmitted verbally or in a written format or both ways. The receiver of the handover information then either documents the information in a written form or relies solely on their memory to recall the information.

> **The project team should check whether there are any existing policies and protocols covering handover. If there are, it is important to find out whether staff are aware of them and whether normal clinical practice complies with organisational policy.**

2. When does handover occur?

To avoid wasting staff time and devaluing the handover process, shift-to-shift handover should be conducted at a fixed time and fixed place and it should be punctually attended.

The effectiveness and efficiency of handovers are affected by shift structure so it is important to develop a clear understanding of the shift structure in place. Where staff are working staggered shifts, or using team nursing models, it is very important to obtain a clear understanding of the current practice of transfer of responsibility.

> **Appropriate shift overlap is essential for good clinical handover. Inadequate shift overlap will result in inadequate handover. Long shift overlap, however, can result in confusion regarding responsibility for patient care during the shift overlap.**

3. What is the role of consumers, patients and their families?

Patient-centred care involves the active participation of patients, consumers, carers and family members in the planning, delivery and evaluation of care and the design of the health system. As patients are the common link between all forms of handover, they should be included on the improvement team whenever possible.

Patient concerns about handover need to be explored even when a direct participatory role in handover is not anticipated. The effectiveness of handover communication may be enhanced by the participation of patients, carers and family members. Consider if bedside handover is appropriate, as it has been shown to enhance patient satisfaction and improve safety (Chaboyer et al, 2008).

Project teams should also be aware of the Australian Charter of Healthcare Rights which describes the rights of all consumers using the Australian health system and is available in Appendix 1.

4. Who attends and leads handover?

A designated team leader should take responsibility for the overall conduct of the handover. The leader will commence handover and then supervise individual staff, ensuring all relevant information is given and the actions are understood by the oncoming staff. The leader is often the most senior staff member present.

Leadership makes handover efficient and ensures safety by reducing the risk of content omission.

All patient care is multidisciplinary but many communication practices, including many current handover practices, are unidisciplinary (e.g. nurses handing over to nurses and doctors handing over to doctors). Consider whether unidisciplinary handover is the right model or whether the introduction of a multidisciplinary model could improve the safety of handover. Consider whether multidisciplinary handover is feasible (e.g. do different professionals change shift at the same time; is there a place big enough for all professionals to be involved?).

More multidisciplinary handover has been proposed to reduce the risk of discontinuities in patient care. This is especially important in complex clinical cases or where multiple teams of healthcare professionals interact constantly in order to provide patient care (for instance in intensive care units).

The involvement of multiple teams of healthcare professionals in the handover process might not always be an efficient use of time. This is especially the case if each team member carries out their own tasks independently. However, patient care is delivered through multidisciplinary action and a level of coordination of care is required (e.g. a nurse manager knows which teams need to see which patients, and will hand that information over to the oncoming nurse manager).

5. How is continuity of patient care assured during handover?

As the clinical handover process often takes clinical staff away from patient care, it is very important to ensure that patient care continues. The team should identify how well and by what methods current handover practice assures continuity of patient care.

Patient care needs that must be provided for during the handover process include:

- **expected arrival or physical transfer of patients, especially unstable patients**
- **treatment or management which must be provided at a specific time**
- **unexpected emergencies during handover periods**
- **toileting and response to patient call bells.**

6. Is handover documented and what relationship does this have to patient records?

Some handover information may be regularly referred to as a permanent part of the patient record (e.g. discharge summaries from theatre or intensive care unit) or may be short-term in significance (e.g. 'we're expecting the porter from theatre to come for the patient soon'). Handover information may be taped, typed or just written on a piece of paper to serve as a memory aid. The relationship between any handover documentation and other patient records must be clearly identified. The legal status of documentation that results from handover should also be determined.

The handover improvement team should consider whether handover documentation should be archived in the patient notes or in some other form. The current state of the medical record, such as paper-based, electronic or scanned records, will affect this choice. Handover documentation does not replace the need to document patient progress and management plans clearly in the patient progress notes.

7. What other roles does handover play?

The role of the handover will vary considerably, depending on the type of handover and other processes available to assist with these functions. The process of handover may provide an opportunity for group decision making and decision support or it may act as a regular trigger for clinical decision making. Handovers, especially shift-to-shift handovers, carry a very important informal teaching role for junior staff. Students and junior staff learn clinical practice and culture through observation and informal interactions with staff members.

The current clinical handover process may serve additional important functions such as teaching, staff bonding or debriefing. It is important to consider other ways to provide these functions if the implementation of a standardised handover means they no longer have a place during handover.

8. Is current handover efficient and effective?

Factors that affect the efficiency and effectiveness of clinical handover include: interruptions, noise levels, language proficiency, cultural awareness and human performance (such as fatigued staff finishing night work). It is important to recognise the impact of these factors on the process of clinical handover.

Distractions to the clinical handover process should be identified and resolved. These might include number of chairs, physical privacy, audio privacy and restriction of non-handover activities such as consumption of food during handover time.

9. Is there a standardised format for handover information?

The efficiency and effectiveness of handover can be improved with a standardised format for the delivery of most information. There may already be some formal or informal standardisation within the current handover process. This should be identified and described. It is also important to note the variability of the format and factors which may lead to variability (e.g. 'when it's busy, handover is shorter and we sometimes leave out things like social history').

Clinical handovers should follow a particular format and a checklist should be available to ensure all aspects are covered. The use of a minimum data set for individual patient handover will minimise interruption as the receiver of handover understands what to expect.

10. Are tools used to assist with handover preparation and the handover process?

Various tools might be used to assist clinical handover. These may include whiteboards, electronic data projectors or clear clinical handover guidelines. Spreadsheets or word processing tools might also be used for information support. True electronic handover tools are databases that have an interface which allows simultaneous access by multiple users to view and enter handover data. The information content in any tools used should be analysed. A well-designed tool should both force and document the clear transfer of responsibility and accountability of patient care.

Tools used in handover, especially electronic tools, must allow for the transfer of responsibility and information on patient care. It is important that one tool is used by all clinicians to update clinical handover information. For instance, the combination of a handover book and an electronic handover tool would be unsafe.
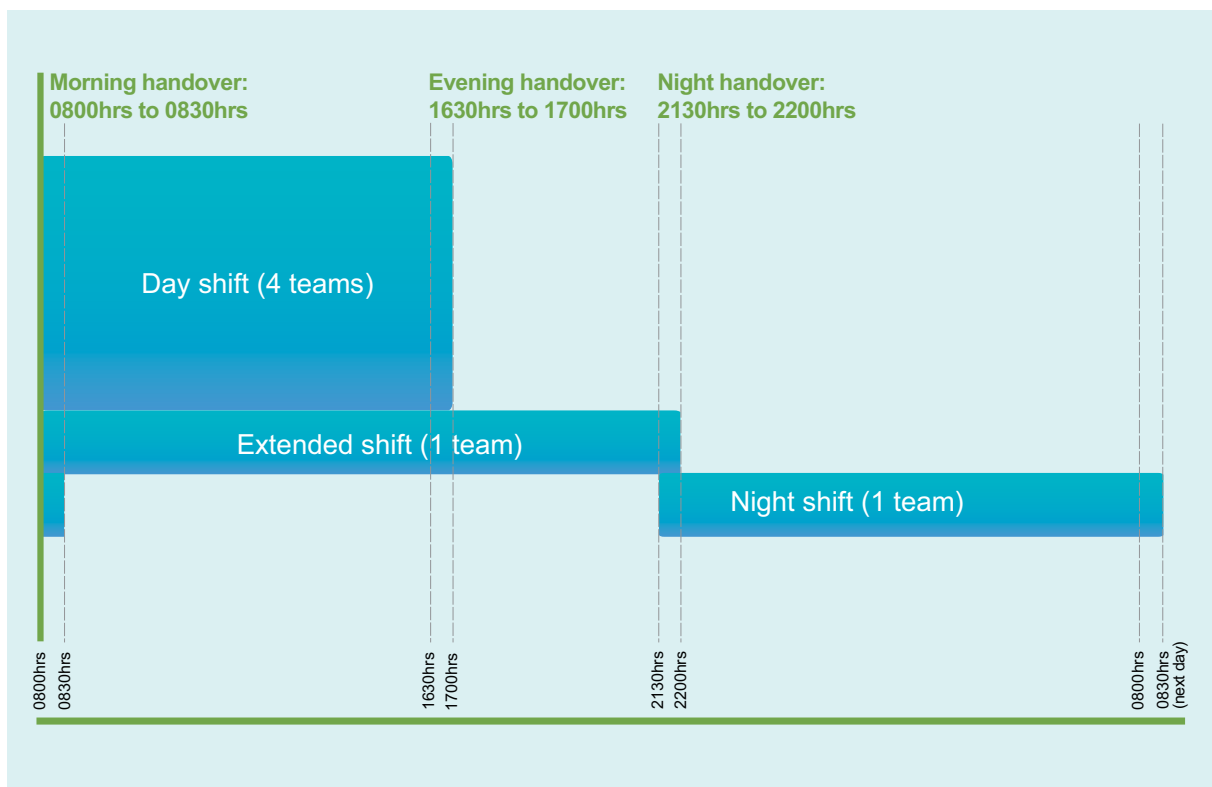
3.3 Tools and techniques

There are three key techniques that will help you answer the 10 questions and understand your processes: the use of a shift diagram, structured observations and structured interviews. Other techniques might be helpful, such as the use of video (information on this is available on our website at **www.safetyandquality.gov.au**). The use of surveys as a primary investigative tool is not encouraged as there are limitations in the richness of information which surveys generate.

3.3.1 Shift diagram

Making a shift diagram will help the project team gain an understanding of how their organisation, ward or unit's shift structure affects handover processes.

Figure 4: Sample shift diagram

Morning handover:
0800hrs to 0830hrs

Evening handover:
1630hrs to 1700hrs

Night handover:
2130hrs to 2200hrs

Day shift (4 teams)

Extended shift (1 team)

Night shift (1 team)

0800hrs
0830hrs

1630hrs
1700hrs

2130hrs
2200hrs

0800hrs
0830hrs
(next day)

3.3.2 Structured observations

Observation sessions should be performed to study the handover process. Video has been successfully used for observations and it creates data that engages staff (Iedema et al, 2009). Observations can also be recorded using pen and paper.

Below are some matters that should be considered by the project team, as well as a list of variables that should be collected during the observation of a handover.

Clinician observer vs non-clinician observer

Clinician observers provide the benefit of understanding the current system and language used. However their views may be biased. Non-clinician observers, on the other hand, may not be accepted by the unit and/or individuals within it and they may face difficulties in understanding the culture and terminology used. It should be noted that clinician observers will need to be given an allocated time for observations when they are *not* participating in handover.

Number of observations required

The number required is highly variable. However, at least 10 observation sessions are generally required for a single ward to enable the project to reach a clear understanding of the range of existing practices.

Table 1: Data to be collected during observations

Common data to be recorded in each work domain where clinical handover is observed:
a. The standard time(s) of the day for handover
b. The location(s) in the work area where handover is conducted
c. The participants in handover communication (e.g. outgoing and incoming staff)
d. The length of time taken for handover (e.g. in minutes)
e. Whether a common structure or set of rules is employed (e.g. read-back)
f. The quality of the information transferred (e.g. clarity, brevity and thoroughness)
g. Other topics discussed at handover
h. The level of interaction between staff members (e.g. do new clinicians ask questions and receive responses?)
i. The functionality of tools used (e.g. electronic media, checklists, handover sheets)

3.3.3 Structured interviews

Below is a list of suggested interview questions. Interviews will reveal clinicians' perceptions of handover process and content. They may also serve to engage clinicians to participate in the change process. Interviewees must be given opportunities to describe the current process *and* to make suggestions for future improvements.

The number of interviews required is highly variable. However, it is recommended that for a single ward a number of interviews should be conducted with staff at all levels of seniority and all specialities involved in or affected by the handover process. The main themes should be identified from the responses to each question and an analysis and summary should be prepared to share with the team and others.

Table 2: Interview questions

Section 1 – Perceptions of clinical handover

1. What is your definition of clinical handover?
2. What are the functions of clinical handover?
3. What do you think the transferring of responsibility and accountability during handover means?

Section 2 – Handover processes in respective departments

1. Can you please discuss how handover is currently conducted in your department?
2. What do you think are the positive aspects of your current handover process?
3. What do you think are the negative aspects of your current handover process?
4. How do you think your current handover process could be improved?
5. What information do you require for continuity of patient care during your shift?
6. How could information technology help you with handover?

Section 3 – Handover education and training

1. How did you learn how to do handover?
2. How do you think handover should be taught?

Section 4 – Patient, family and carer questions

These questions should be designed by the team to be relevant to the specific unit, as the roles of patients and families in both handover and engagement in care processes are highly variable (for instance, a spinal rehabilitation unit versus a neonatal intensive care versus an emergency department).

Patients may be affected by handover even when the handover is not at bedside. For instance, they may notice being checked on in preparation for handover or complain about staff absence during handover.

Some examples of questions for patients, families and carers, which could be tailored for use, include:

1. How do staff work together to care for you?
2. How effective do you feel the communication is between doctors and nurses regarding your care?

With the information gleaned from the shift diagram tool, structured observations and interviews, the team should then complete the following three tools: the risk assessment, the handover process guide and the handover content guide.

3.3.4 Risk assessment

This risk assessment should determine current problems with handover and potential risks of current practice for patient safety. Consider the following five points when conducting the risk assessment:

a. For each handover scenario, describe what clinicians do, based on the information gathered through observation sessions.

b. Identify for each handover scenario specific ways that the process could break down or fail due to gaps in handover.

c. Identify and analyse how such gaps are identified (or not identified).

d. State the effect of the breakdown on information, responsibility and accountability transfer.

e. Identify what clinicians do to recover from discontinuities in handover.

Examples of risks or problems include:

- insufficient staff to do handover and attend to patients
- lack of clear understanding of emergency resuscitation process during handover
- participants not being available
- participants being distracted
- incomplete information provided
- required documents not being available
- no opportunity for clarification
- the incoming team not understanding or accepting accountability for care.

3.3.5 Handover policy and process guide

In order to ensure success in clinical handover improvement, clinical handover must be seen as a priority and part of the duty of care of healthcare professionals. Each institution must therefore ensure good current handover policy is in place. The handover policy must be distributed to all clinicians and compliance to the policy must be ensured. It is important to understand whether the current policy supports clinical service needs.

The project team should develop and complete a summary table, similar to the one on the following page. This table aims to assist the project team to gain an understanding of any current relevant policies and procedures available, as well as clinician perceptions and observed practice.

> **'We talk very much about the transfer of information but what this has brought along is the emphasising and marketing of that notion of transferring responsibility.'**
>
> *Participant, November 2008 clinical handover workshop*

Table 3: Understanding the process of handover

Domain and issues	Policy	Perception from staff	Real-life practice
Factors which may influence handover: • environmental factors such as interruption and shift overlap • information exchange • human performance.	Is there a policy to minimise the impact of various factors on the effectiveness and efficiency of handover?	What do staff think about these factors? Do staff understand policies relating to these factors? What do staff think they do to minimise the impact of these factors?	What are the impacts of these factors on handover? Has policy in place been followed? Do staff develop certain practices ('work-arounds') to avoid the impacts of these factors?
Tools to assist the handover process: • flow charts • posters • documentation of each shift.	Is there a policy for the utilisation of tools to assist the handover process? Is there a policy for auditing the handover process?	What do staff think about tools to assist the clinical handover process? What tools do staff need/utilise for handover from their perspective?	What tools are utilised to assist the clinical handover process? Are handover tools available all the time? Is there any feedback to staff regarding the process?
The environment for handover: • Is there a fixed venue? • Is there a fixed time? • Who attends and who leads handover?	Is there a policy on the venue, time and duration for handover? Is there a policy for attendance at handover? Is there a policy for leadership during handover?	What do staff think about the location, time and duration of handover? What do staff think about attendance at handover? Is there a clear leader during handover?	Are the time, duration and venue of handover clearly understood? Is there a consistency in attendance? Does the leader ensure the effectiveness and efficiency of the clinical handover process?
Handover characteristics: • type of handover • content • opportunity for clarification.	Is there a policy for the type of handover required during each shift? Is there a policy on the agenda items/checklists for handover?	What do staff think about the type of handover which is currently being used? What do staff think about content for handovers?	Is there any consistency in the type of handover conducted for each shift? Is there any consistency in the format of handover process? Is there any opportunity for clarification?

3.3.6 Handover content guide

The project team should also develop a table to assist in understanding the content of current handover practice. To complete this activity, current handover notes and the information contained in verbal handover conversations should be collected and analysed to ensure that the current content transfer is well understood by the team.

Analysis of the content of 50 individual patient handovers is recommended. This could be provided by studying just two shift-to-shift handovers in many units. This will ensure that an approach that incorporates 'flexible standardisation' can be achieved where important local information also forms part of the final standardised solution.

Case study: Understanding flexible standardisation

The handover of patients with chronic renal failure will differ between the renal ward and the dialysis centre. In the renal ward, the handover might include the logistics of organising dialysis and management of peri-dialysis care, such as transferring patients at a certain time to the dialysis centre and avoidance of blood pressure measurement and intravenous cannulation on the arm with the arterio-venous fistula.

In the dialysis unit, however, handover of the same patient will include technical detail of dialysis. This might include time and duration of dialysis, venous access, heparin infusion during dialysis and electrolyte abnormalities which require intervention.

While some clinical data, such as reason for admission and treatment so far, will be the same for the two wards, the minimum data set required at handover will be slightly different depending on the local setting, hence the term 'flexible standardisation'.

Table 4: Content issues in handover

Domain and issues	Policy	Perception from staff	Real-life practice
Transfer of content: • How do staff transfer the content? • Verbal/written/other	Is there a policy to guide handover? Is there any policy to guide written aspects of handover?	What do staff think about the handover process?	What do staff do to transfer information? Is there any consistency in their approach?
Standardisation and minimum data sets: • Is there a minimum data set? • Are there any informal rules/standardised content to be transferred? • Does the content transfer cover information, responsibility and accountability?	Is there a policy on a minimum data set for handover? Is there a clear policy on transfer of information, responsibility and accountability during handover?	What information do staff need for continuity of patient care? Is there a formal or informal minimum data set in use? What do staff think about transfer of information, responsibility and accountability?	What information is transferred during handover? Is there a consistent pattern in information being transferred? Is there a clear transfer of information, responsibility and accountability?
Information tools to assist handover: • paper-based • electronic • memory aids.	Is there a policy for utilisation of information tools during handover? Is there a policy for archiving handover documentation?	What do staff think about information tools to assist handover? What tools do staff use/need from their perspective?	What information tools are utilised to assist handover? What do staff do with any information or memory aids? Are handover tools available all the time?

After completing the study of risk, process and content the team should be able to make proposals for improvement and determine what customisation will produce an acceptable standardised solution that is able to improve patient safety.

Case study: Royal Hobart Hospital & University of Tasmania project

The clinical handover project at the Royal Hobart Hospital and University of Tasmania involved three clinical areas: General Medicine, General Surgery and Department of Emergency Medicine. This case study describes how information obtained from the first phase assisted the development of standardised clinical handover solutions for the Department of Emergency Medicine. There was a total of 20 observation sessions and 16 interviews with interns, residents, registrars and consultants. Furthermore, 50 patient handover messages were analysed.

Table 5: Handover in the Emergency Department

Description	How does it affect handover in the Department of Emergency Medicine?
The Department of Emergency Medicine at the Royal Hobart Hospital looks after acute presentations of all patients, including paediatric, adult care, women's health, mental health and trauma. The Department of Emergency Medicine differs from other clinical areas, especially with regard to the complex, dynamic and intensive nature of the communication required in health care delivery.	The standardised information transfer (minimum data set) must be flexible enough to accommodate many different clinical scenarios. The handover process must ensure the transfer of the most recent patient care requirements and preparation for handover should only occur immediately before the handover.
The Department of Emergency Medicine looks after many patients at any one time. Many patients are sick and have the potential to deteriorate rapidly, requiring rapid interventions.	The handover process must be efficient and brief in order to ensure good patient care. Senior clinicians who accept handover of patient care might already have some knowledge about the presentation of the patient.
There is a common working area in the middle of the department, allowing constant interaction and discussion where necessary. Patients at the Department of Emergency Medicine require continual on-the-ground care by medical officers.	It is inappropriate to take most medical staff away from the clinical area for handover.
Shifts of medical officers in the Department of Emergency Medicine are staggered in order to meet the demand for medical care over each day. Handover of patient care is only accepted by senior medical staff. Junior medical staff start their shift seeing new patients.	Junior medical officers who start after the main handover session will not need to know about other patients in the department.
The main task of the Department of Emergency Medicine is to determine whether the patient will require inpatient care, or whether a diagnosis can be reached and a management plan derived in order to discharge the patient from the hospital.	The outgoing team is handing over the patient permanently to the incoming team. Therefore, handover in the Department of Emergency Medicine must be thorough and concise in order for the incoming team to accept the full responsibility and accountability for the patient. This includes clearly communicating the discharge plan for the patient or whether the patient has been accepted by an inpatient team.
There are three main clinical handover sessions per day, regardless of the day of the week. These handover sessions are mainly concerned with the senior member of the team handing over to the other senior member of the incoming team starting the new shift. Some of the junior medical officers finish at 1700hrs and there is no formalised handover at that time. Handovers from junior doctors at the end of their shift are highly variable due to a lack of dedicated receivers of these handovers. Some junior doctors are not familiar with the handover policy while others might not have informed the person accepting handover about the transfer of responsibility and accountability.	The standardised handover solution is therefore specifically designed to achieve improvement in that particular area as a matter of priority. It is anticipated that the standardisation process might spread to other areas over time. The most important emphasis of the standardised handover process must be the identification of a receiver of ongoing responsibility and accountability for patient care. The senior colleague must understand that they are receiving responsibility for patient care and have the ability to do so at that time, rather than just providing advice and guidance.
Many doctors stay beyond the end of their shift in order to sort out their patients rather than handing over to other doctors. The nature of emergency department (i.e. busy department with multiple interruptions) affected the nature of handover.	This is only possible through commitment demonstrated by staff to patient care. The proposed standardised solution must allow this flexibility to continue in order to best suit the working environment.

4

Simple solution development – Phase 2

The next phase is the development of a simple solution for improved handover which incorporates the principles outlined in this chapter. By the end of this phase, the project team will have set a date for implementation and have all the tools ready for the implementation of the standardised solution. The standardised solution should include standardised content and process and it should incorporate local context.

Health care processes can be divided into those that are repetitive, routine or non-routine (Lillrank & Liukko, 2004). Clinical handover is an example of a routine process, being similar but not identical every time. Routine processes can be defined and improved by the use of checklists and best practice guidelines that standardise while leaving room for situational variation. Standardisation means information can be conveyed more efficiently and with higher reliability.

In most high reliability organisations, however, emphasis is on delivering the most important information first, rather than on a fixed structure for communication (Patterson, 2008). This suggests that in health care it is important that handover standardisation is not allowed to minimise the focus on what clinical experts deem the most critical information.

4.1 Objectives of this phase

In this phase the project team will:

- ensure the standardised handover solution developed is patient-centred and practice-centred
- engage clinicians in the design of a standardised handover solution which includes process and content transfer
- engage clinicians in the design of information tools to assist implementation.

4.2 Developing the solution

User-centred design

This simple solution development phase should engage and involve as many clinicians as possible to create a collaborative atmosphere among staff and ensure that the design is user-centred. During this phase, all comments and recommendations should be taken on board. The project team will then need to balance conflicting views and the availability of resources to achieve the optimal outcome. Methods to involve staff may include collaborative design workshops, consultations and voluntary trialling of processes and standardised content formats.

Process flow chart

The first step in designing the improved standardised clinical handover process is to develop a flow chart of the current handover process. This should be compared with the principles for handover presented in this chapter. From this comparison the gaps and strengths should be identified and a revised handover process developed.

Process and information tools

Once the team has developed the new process for handover that meets local needs, information tools should be developed to help clinicians change their practice. For example, written handover sheets can be developed that incorporate the new process. Posters, memory aids and guidelines can be displayed in places where they will be noticed and read. Such information tools should be easily available and should be used at every handover session.

Principles for handover

Principle 1: Handover requires preparation

Handover requires preparation prior to handover time. Clinical handover has to be valued as one of the top priorities in clinical work. It is vital that clinicians understand this and remind each other of the importance of clinical handover for safe patient care.

Allocating staff for continuity of patient care

During handover it is essential that emergency patient care is delivered by staff. Clear allocation of staff members is essential to reduce disruptions and ensure safe patient care during handover.

Nominating participants, time and venue

The attendance of key staff should be determined. This should include incoming and outgoing team members who are directly responsible for the care of the patient to be handed over. The handover process should have a clear starting time and a venue which provides minimal disruptions.

Obtaining the relevant documents

Prior to handover the clinicians should obtain and update necessary documents. This may include name lists, handover sheets and electronic handover forms and may also include checking observations or results. This guide recommends that verbal handover be complemented by documentation. All essential information should also be clearly documented in patient progress notes. An example of a handover sheet is included in this chapter.

Principle 2: Handover needs to be well organised

Clear organisation for handover will ensure the effectiveness and efficiency of the process. This involves:

Making sure all participants have arrived

Clinicians should be provided with paid and protected time to attend handover. Punctuality during handover sessions is important and should reflect the professionalism of clinicians involved.

Electing a leader

The handover of patients during a shift change should be supervised by a designated leader. This is usually the role of the most senior clinician present. The leader should ensure that all relevant communication items are covered in a timely manner.

Principle 3: Handover should provide environmental awareness

Clinical handover should inform the incoming team of any environmental issues which might impact on their shift.

Alerts, attention and safety

Handover should include notification about patients who might require significant levels of care or immediate attention; are deteriorating or who might deteriorate; or present occupational safety issues. Information should be provided about the condition of the work environment (e.g. plumbing problems) that may impact on safety. Potential patient movements should be highlighted so that incoming teams can devise plans to manage their workload. Staffing numbers and arrangements may also need to be described.

Principle 4: Handovers must include the transfer of accountability and responsibility for patient care

The handover of individual patients must be achieved through a standardised content delivery. Structures for individual patient handover (minimum data sets) are provided in this chapter, which may be adapted to the local context. It is important to emphasise that standardised individual patient handover must ensure the transfer of responsibility and accountability.
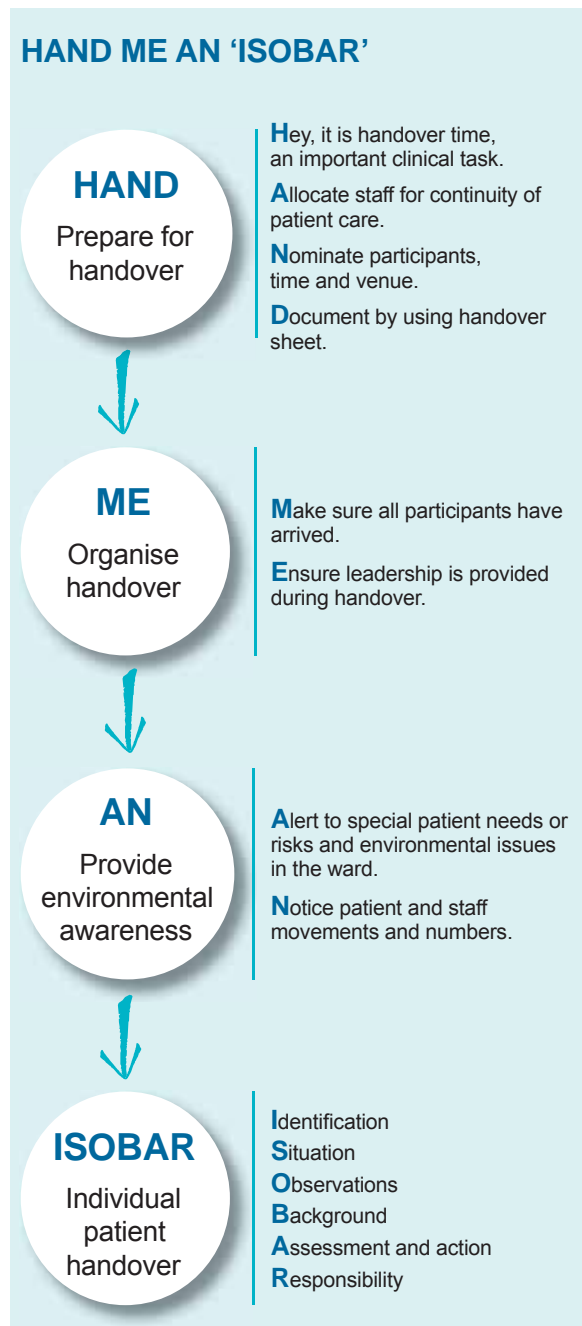
Minimum data sets have successfully improved face-to-face, telephone and taped handover. However, this guide emphasises that face-to-face handover is the preferred option wherever possible as it allows for interaction and clarification during handover.

Several of the mnemonics piloted as part of the National Clinical Handover Initiative are presented in this chapter. There is no evidence that any handover mnemonic is better – that is, more able to ensure patient safety – than another.

4.3 Tools and techniques

The principles presented in the previous section came from a mnemonic for handover which was developed by Royal Hobart Hospital and the University of Tasmania.

The principles and the minimum data set ISOBAR can be combined to form a standardised process and content set for handover called 'HAND ME AN ISOBAR' which is presented in the flow chart below.

HAND ME AN 'ISOBAR'

HAND
Prepare for handover

Hey, it is handover time, an important clinical task.

Allocate staff for continuity of patient care.

Nominate participants, time and venue.

Document by using handover sheet.

ME
Organise handover

Make sure all participants have arrived.

Ensure leadership is provided during handover.

AN
Provide environmental awareness

Alert to special patient needs or risks and environmental issues in the ward.

Notice patient and staff movements and numbers.

ISOBAR
Individual patient handover

Identification
Situation
Observations
Background
Assessment and action
Responsibility

'ISOBAR'

'ISOBAR' refers to:

I = Identification

S = Situation and status

O = Observation

B = Background and history

A = Assessment and actions

R = Responsibility and risk management

I = Identification of patient

This step, which ensures patients are correctly identified, should include three identifiers: for example, patient name, date of birth and medical record number.

S = Situation and status

This step includes the patient's current clinical status (e.g. stable, deteriorating, improving), advanced directives and patient-centred care requirements including the prospect of discharge or transfer.

O = Observation

This step ensures the incoming team is informed of the latest observations of the patient and when they were taken. It serves as a checking mechanism to identify deteriorating patients for emergency response assistance. Unit members need to be aware of local emergency response call criteria and process.

Why introduce 'O' for observation?

In some handover mnemonics, observation is included under 'S' (i.e. situation). However, handover research in several Australian states showed that 'old' or inaccurate observations were frequently handed over.

There are numerous reported cases where assistance was not called for patients who suffered serious deterioration or death. Observations were sometimes recorded over a long period of hours, including across shift handover, that should have prompted a call for assistance. The explicit introduction of 'O' is therefore designed to ensure that if patients meet call criteria for an emergency response team or process that handover at least will trigger that call.

B = Background and history

This step provides the incoming team with a summary of background; history (the presenting problem, background problems and current issues); evaluation (physical examination findings, investigation findings and current diagnosis); as well as management to date and whether it is working.

A = Assessment and actions

This step is to ensure that all tasks and abnormal or pending results are clearly communicated. Most importantly, there must be an established and agreed management and escalation of care plan, which could include:

● a shared understanding of what conditions are being treated or, if the diagnosis is not known, clear communication of this fact to everyone

● tasks to be completed

● abnormal or pending results (must include recommendations and the agreed plan and who to call if there is a problem)

● a plan for communication to the senior in charge

● clear accountability for actions.

R = Responsibility and risk management

Clinical handover must include the transfer of responsibility as staff are leaving the institution. This can only be achieved through acceptance of tasks by the incoming team, which is best ensured by face-to-face handover. Where risks are identified for a patient, clinical risk management strategies (such as for infectious disease alerts or alerts for DVT prophylaxis) should be clearly communicated.

● Responsibility transfer and task acceptance ideally includes accepting handover sheets or signing of handover sheets.

● Readback of critical information is helpful, especially in situations where face-to-face handover is not possible.

● Risks and management plans should be included in handover when required.

'iSoBAR'

i	**identify** – Introduce yourself and your patient
S	**Situation** – Why are you calling? Briefly state the problem
o	**observation** – Recent vital signs and clinical assessment
B	**Background** – Brief relevant history
A	**Agree to a plan** – Given the situation what needs to happen? What do you want?
R	**Readback** – Confirm shared understanding. Who is doing what and by when?

iSoBAR – where 'i' stands for identify (and includes the clinicians involved in the handover identifying themselves), 'A' stands for 'Agree to a Plan' and 'R' stands for 'Readback' – was used for the National Clinical Handover Initiative project led by the Western Australia Country Health Service and Royal Perth Hospital.

iSoBAR was initially developed for use during inter-hospital transfer, where handover occurred over the telephone, accompanied by transfer documentation. iSoBAR is now in use across many handover scenarios in Western Australia as it proved easy to adapt and integrate into existing work processes.
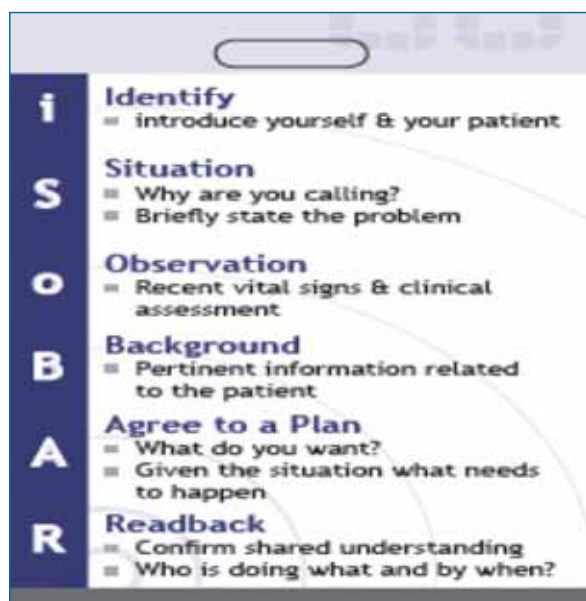
iSoBAR lanyard card

'ISBAR'

I	**Introduction** – I am
S	**Situation** – What's going on
B	**Background** – Brief relevant history
A	**Assessment** – What I think is happening
R	**Recommendation** – What you are asking them to do

ISBAR was adapted for use in the National Clinical Handover Initiative project 'ISBAR revisited: Identifying and Solving BARriers to Effective Handover in Inter-hospital Transfer', carried out by Hunter New England Area Health Service.

Hunter New England Area Health trialled the use of ISBAR for inter-hospital transfer. The clinicians who used ISBAR as part of their pilot reported that it was simple, memorable and portable. Staff had increased confidence in giving and receiving clinical handover and audits of medical charts indicated that the quality of information improved. ISBAR was well received and continues to be used across the Hunter New England Area Health region.

ISBAR poster

'SBAR'

S	**Situation** – What is the situation? (Chief complaint, current status)
B	**Background** – What is the clinical background? (Previous history)
A	**Assessment** – What is the problem? (Results of assessment, vital signs and symptoms)
R	**Request/recommendation** – What do I recommend/request to be done? (Suggested and anticipated changes, critical monitoring)

Note: the text inside the brackets relates to the variation on SBAR used by the 'Bedside Handover and Whiteboard Communication' project.

A structured communication algorithm, SBAR has been popularised and supported by Kaiser Permanente in the US and by the US Joint Commission.

SBAR stands for:

S = Situation

B = Background

A = Assessment

R = Recommendation

This mnemonic has been used in many communication situations, including in health care for executive briefings or incident reports, but also in many non-health situations such as military briefings.

When SBAR is used for handover, patient and healthcare-specific detail is typically added to the four communication elements (Haig et al, 2006). The expansion of SBAR with disease-specific, age-specific or circumstance-specific agreed data sets has been recommended (Webster, 2008).

Many variations of SBAR have been developed to support handover, including adaptation for use by the following National Clinical Handover Initiative teams:

- 'TeamSTEPPS™', South Australian Department of Health Clinical Systems Unit and South Australian Health Services

- 'Bedside Handover and Whiteboard Communication', Griffith University Research Centre for Clinical Practice Innovation, Queensland Health Patient Safety Centre and Peel Health Campus, Western Australia

- 'The PACT Program – Communication Training and Team Training to Support Handover', Albury-Wodonga Private Hospital – Ramsay Healthcare

The PACT Program piloted at Albury-Wodonga Private Hospital used two SBAR communication tools to standardise and facilitate shift-to-shift and nurse-to-doctor communication. Nurses who participated in the pilot believed handover had improved and 80% felt more confident when communicating with doctors.

SBAR communication tool

'SHARED'

S	**Situation** – Reason for admission/ phone call; change in condition; diagnosis-specific information	
H	**History** – Medical; surgical; psychosocial; recent treatment; responses and events	
A	**Assessment** – Results; blood tests; X-rays; scans; observations; severity of condition	
R	**Risk** – Allergies; infection control; literacy/cultural; drugs; skin integrity; mobility/falls	
E	**Expectation** – Expected outcomes; plan of care; timeframes; discharge plan; escalation	
D	**Documentation** – Progress notes; care path; relevant electronic health; record/ database	

SHARED was adapted for use by the National Clinical Handover Initiative project, 'SHAREing Maternity Care – Clinical Handover between Visiting Medical Officers and Midwives', Mater Health Services Brisbane Limited.

The SHARED framework was piloted within the Mater Mothers' Private Hospital and Mater Private Hospital Redland. It sought to address the communication issues associated with the critical time around the following clinical points of care: referral from the midwife to the visiting medical officer (VMO) when a change in the woman's condition is diagnosed; and referral from the VMO to the recovery nurse/midwife post-Caesarean section.

This project found that a standardised approach using SHARED to define the minimum dataset can improve the accuracy and appropriateness of information exchanged.
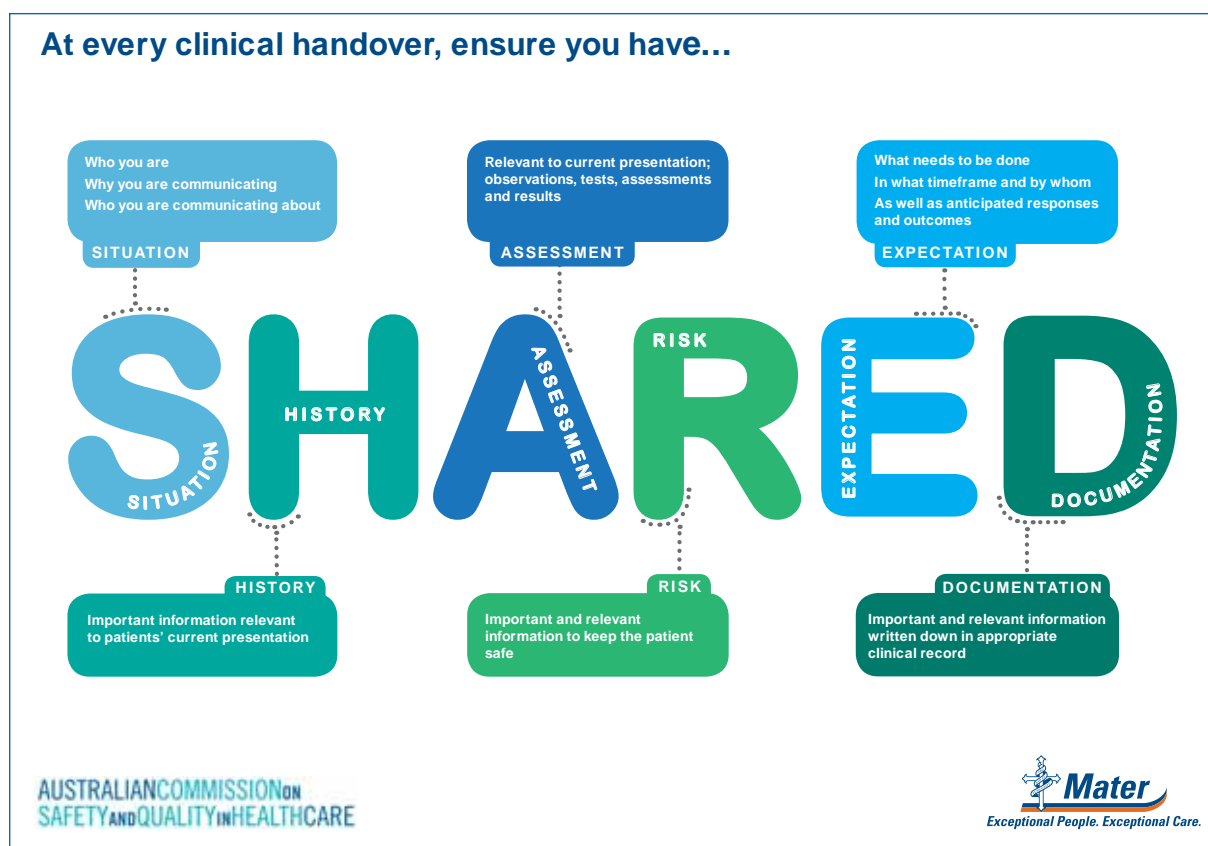
SHARED poster

The table below is an example of how the handover process can be adapted to local conditions while still introducing standardisation. This guideline was developed by Royal Hobart Hospital, Department of General Internal Medicine.

Table 6: A sample local process guide

Morning medical clinical handover order of proceedings	
STEP 1	**Establish the clinical handover leader**
STEP 2	**'Capping' system** i. Establish patient numbers of 'on-take' units and each unit. ii. Highlight if the 'Capping' system is to be activated. iii. Refer to the 'Capping' guideline for patient allocation. *Note that 'Capping' is a local strategy to manage workload.* *This is an example of flexible standardisation.*
STEP 3	**Highlight definite or potential consults to advanced trainee**
STEP 4	**Night registrar** i. To present cases which might need specialty input first. ii. Other new admissions. iii. Consultations from wards.
STEP 5	**Medical senior** i. Night medical senior to present admissions to be 'handed back' under the 12 months guidelines. ii. Evening medical senior. iii. Please state the UNIT, CONSULTANT, WARD, URN clearly at the beginning of the presentation.
STEP 6	**Night interns and potential consults** Issues on the ward overnight, especially unstable patients.
STEP 7	**Unknown or incorrectly listed patients** Each unit to check and notify 'unknown' patients or 'incorrectly listed' patients.
STEP 8	**Mortality within the last 24 hours** i. Report of mortality within the last 24 hours (or over the weekend). ii. Please report the unit and URN of the patient. iii. Reminder to interns to forward the case notes to Department of General Internal Medicine.
STEP 9	**Notices** i. Staff absence to be reported. ii. Reminder for meeting scheduled for the day. iii. Other notices or issues arising.
Note for Monday	Start with handbacks from Friday on-take unit, followed by Saturday and Sunday handbacks, and then follow the above agenda.

The protocol has clearly set out the steps required to achieve good handover. It includes establishing a leader, alerts and notices as well as individual patient handover. As part of the workload planning and management of this particular unit, however, the clinical handover protocol includes a 'Capping' system, which allows units to hand over patient care to other units in order to balance the workload among different units. This protocol also includes a section to identify 'unknown' or 'incorrectly listed' patients in order to ensure clear delineation of the responsibility of care for each patient.

Table 7: Paper form to assist staff to practise standardised and better handover

Clinical handover sheet UNIT:

Are you prepared for handover?

Are we ready and is the leader present?

(Sick patient requiring attention, special instruction, any equipment or staffing problems etc.)

I (dentify)	S (ituation) O (bservation)	B (ackground)	A (ssessment and action)	R (esponsibility)
URN, name and location (or sticker)	Remember MET criteria	History, evaluation, treatment to date	Action required, who to call if there is a problem	Accept responsibility, questions and provide clarification

5

Stakeholder engagement – Phase 3

Stakeholders are individuals or groups who are interested in an issue. In health care settings many stakeholders will be materially affected by changes to handover. However, their engagement is essential to ensure the success of the project.

Although many of the activities in Phase 1 – organisational leadership – include stakeholder engagement, this chapter provides more guidance to the project team.

5.1 Objectives of this phase

Identifying and engaging with all relevant stakeholders is the key objective of this phase. This includes:

- ensuring stakeholders understand the objectives of the project and their respective roles
- empowering staff to participate
- ensuring the sustainability of clinical handover improvement through the continued commitment of all stakeholders to the improvement process.

> **'The issue is really getting the people who don't think it's all that credible or don't quite get the concept and trying to get their attention. Making them think about how to improve things. That's a slightly different issue than the process.'**
>
> *Participant, November 2008 clinical handover workshop*

5.2 Engaging stakeholders

Identification of stakeholders

From the beginning of the project, the needs and contributions of the following groups of stakeholders should be considered by the project team:

- the financial support/funding body
- advisory team members such as a steering committee and reference groups
- the support team, such as managers and heads of department
- all clinicians
- patients and carers
- external stakeholders, such as other institutions which have successfully implemented solutions or research organisations.

While all stakeholders who are interested in clinical handover improvement should be encouraged to participate in the project, some stakeholders are powerful within the organisation and may wish to promote specific agendas which may be in conflict with the aims of clinical handover improvement.

Individuals who are already working on clinical handover projects may feel threatened by a new project. It is therefore essential that the project team consider strategies such as informal discussions, good project management structure and identification of opportunities for collaboration, in order to develop a shared commitment for clinical handover improvement.

Front-line staff often feel disempowered when change is 'top-down'. Staff empowerment will also be important to create an environment which encourages problem solving and rapid adoption of best practice.

Professional development requirement

Some clinicians who are supportive of handover improvement might feel that they lack certain skills to fully engage and be involved in the project. Professional development opportunities should be provided for interested clinicians, such as improving skills in leadership, education, training and risk management in order for them to be fully involved in the project. Six hours of online education modules on handover developed by the University of Queensland are available on the Commission's website.

Trust

Clinicians are highly trained professionals who are proud of their contributions to the health and wellbeing of patients. They tend to take seriously any criticism and comments regarding their performance. Quality and safety initiatives must therefore maintain trust by engaging clinicians in a non-threatening way. This will involve taking time to understand clinicians' work and providing them with reassurance that they are delivering quality care, but that things can be done better.

Communication strategies

Miscommunication is a real risk to the success of the project. Communication strategies such as a website, emails, newsletters, pamphlets and workshops should be used. While electronic media make it easy to meet continual communication needs, the message might not reach all staff. The project team should maintain regular face-to-face contact as the primary communication and stakeholder engagement strategy.

Most stakeholders are busy so it is important that communication is brief. Stakeholders are often involved in multiple projects or change processes simultaneously. Therefore, each project update must provide adequate context for stakeholders to renew their commitment to the handover project.

Ideas for what might be communicated at project updates:

- the organisation's decision and commitment to improve clinical handover

- the rationale for participation in the initiative

- a description of the problem to be addressed (inconsistent handover communication)

- the proposed solution (standardised handover communication)

- the costs and benefits of participation

- incentives to clinical staff to participate

- support and resource allocation from the organisation.

Updates and continual engagement

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. Short face-to-face sessions during scheduled meetings of staff are the most effective way of reaching as many staff as possible. Feedback from staff must be acknowledged and, if necessary, an action plan devised to deal with the issues raised.

The project team should ensure there is due recognition of the contributions and successes of all staff and wards participating in the project and that these are made public. This will provide incentives to staff to continually improve and champion the process. This might include provision of refreshments at the end of shifts, awards or certificates of appreciation or involvement of key staff in public presentations.

Innovation and promotion

The communication and engagement process should include innovative methods to promote the project. These may include stationery which could be used for handover and patient care, activities to raise awareness of the project, activities to generate a sense of social belonging and team building activities.

Change champions, including junior staff, are essential but they are often busy. Financial incentives, even if available, might not be an attractive incentive for them to participate in the project. It is important to understand and deploy incentives which will be most useful, such as opportunities for professional development like training courses for certain skills, conference presentations and paper submissions. These activities may attract the participation of change champions by advancing their career development.

Case study: OSSIE in the ED

The Department of Emergency Medicine of Hospital D planned to undertake the five steps of the 'OSSIE' Guide to improve nursing handover. While the proposal had a high level of senior support, the project officer found that nurses on the ground were less than enthusiastic.

In order to engage nurses, the project officer used the following methods:

- A series of photos were taken during handover time to attract attention.

- Short face-to-face presentations were delivered to nurses using the photos as the discussion point.

- A weekly quiz regarding handover, with incentives, was organised for 10 weeks to increase awareness of the project and handover as a whole.

- Printed pamphlets and pens labelled with 'handover' were distributed to all staff.

- Safety goggles were supplied to staff featuring 'handover = safety' stickers.

These activities successfully engaged nurses to participate in the clinical handover improvement initiative.

5.3 Tools and techniques

Stakeholder engagement strategies

The table below guides the project team through various stages of stakeholder engagement, including strategies the project team can use.

Table 8: Stakeholder engagement

Stages	Objectives	Strategies
Identification of stakeholders and initial contact	To ensure adequate representation from all relevant departments To ensure stakeholders have the capacity to contribute to the project To alleviate concerns regarding the project	Face-to-face contact Opportunity for socialisation Informal contact first, followed by formal acknowledgement
Project briefing and initial engagement	To ensure clear understanding of the project's scope, aims and likely outcomes To ensure clear understanding of roles and responsibility To generate a shared commitment and understanding for the project To generate momentum for change	Face-to-face brief meeting Summary of the project available in printed format Project details (electronic or printed) available upon request Incentives such as refreshments and stationery are useful to engage front-line staff Clear statement of what the project is 'not about'
Active involvement and engagement	To best utilise available expertise for project success To identify and involve change champions for project implementation To obtain feedback and comments in order to identify problems early	Selective identification and involvement of individuals when required Provision of incentives for change champions e.g. certificate of participation, professional development, presentations and publications Provision of incentives for feedback and comments such as a lucky draw
Maintenance of engagement	To provide updates and progress for proper project governance To maintain enthusiasm and commitment To encourage active participation To ensure dissemination of outcomes and successes To acknowledge participation and commitments from stakeholders To motivate stakeholders for continual improvement	Regular updates through printed or electronic media such as newsletters, pamphlets and websites Brief face-to-face sessions during regular scheduled meetings such as in-service Innovative ideas such as a weekly quiz game Face-to-face brief presentation with senior management presence Formal acknowledgement such as grand rounds and certificates Acknowledgement of ward involvement such as provision of safety equipment and teaching aids

6

Implementation
– Phase 4

6.1 Objectives of this phase

6.2 Implementing the solution

6.3 Tools and techniques

In this phase the project team will implement a handover solution. Successful implementation will require continued staff engagement as well as the development of support material including education, memory triggers and information tools. The implementation process should ensure clinicians receive positive feedback and successes should be celebrated with the project team.

6.1 Objectives of this phase

The activities described in this chapter will assist the team to successfully implement the new handover process. These activities are:

- developing a project plan for implementation
- delivering education and training programs to staff
- piloting and potentially revising the handover solution
- spreading the new handover process
- establishing a continual learning strategy
- developing innovative activities to ensure success during implementation.

6.2 Implementing the solution

The project team should develop a plan for implementation. The scale of the plan will vary considerably depending on the size of the planned implementation. A whole hospital implementation will be entirely different to one involving a small unit and a single discipline or sub-discipline. A large scale implementation will require consideration of governance, risk management and the development of a work plan.

The implementation phase is time consuming so the project team needs to spread the workload to other clinical champions in order to maintain enthusiasm for the project. The involvement of more than one clinical champion per unit or ward is desirable. This will mean the resource requirements for individuals in the project team are less intensive.

The project team should also consider the resource requirement for staff time and other costs, such as printing and engagement activities.

Risks

The project team should be aware of – and develop strategies to reduce – the common risks that can affect the success of handover improvement initiatives, such as:

- unavailability of clinical team members
- competing demands and interests of staff
- inadequate resources
- delayed delivery of information and support tools
- difficulty educating all staff.

Pilot implementation

Despite all efforts to understand the local context, there can be unintended consequences during the implementation phase. So it is advisable to pilot test the new handover process and to revise the implementation plan according to feedback from the pilot test.

The following issues should be considered prior to pilot implementation:

- **Choice of clinical area and handover scenario**

  It is wise to start with a manageable handover scenario and an area that has enthusiastic leaders and staff.

- **Engagement of pilot clinical areas**

  Full engagement of pilot areas is essential and staff should be actively encouraged to participate in the plan for implementation. Engaged staff can become the ambassadors for full implementation and the spread of handover improvement to other areas of the organisation.

- **Every shift versus specific shift**

  The implementation team needs to consider whether the new handover process should immediately be applicable to all shifts/handovers or only to specific shifts/handovers. For instance, a shift-to-shift standardisation process might start with the morning shift, as the most number of senior staff are available at this time to assist with implementation.

- **Meaningful evaluation and revisions as needed**

  The implementation process in the pilot areas should be measured and documented clearly, including issues such as timeliness and consistency of implementation, any impact on other activities and the impact on patient care. Feedback and evaluation from staff should be used to guide revision of the initial process, contents or tools.

Policy development

The handover solution must be clearly described and embedded in unit (and/or institutional) policies. Such policies usually describe management accountabilities and include a review date for the policy.

Spreading the new process

Once pilot projects have been completed and feedback has been incorporated, the new process should be spread to other units and wards using a staged approach. Staff from the pilot sites should be rewarded and their positive comments should be documented and used as part of any spread strategy (refer to chapter five on stakeholder engagement for examples and ideas). Clinical leaders from pilot sites can assist with spread.

Differences between wards

While the process and content of clinical handover might be similar, it is important that observations and interviews be done in all new wards/units implementing the clinical handover improvement program. The number of observations and interviews, however, could be reduced, as some lessons can be learnt from pilot sites.

The differences in handover practice as well as technical capacity of different wards may require adjustments to the new handover process for the solution to be successfully implemented across multiple wards and units.

Scope creep

Issues identified during the handover project are likely to be broader in scope than the intended objectives in this framework. Other quality and safety issues – such as communication problems, staff rostering problems, bed-blocks and bed management issues – can overlap with handover, but are broader in scope than the intended objectives of clinical handover improvement. The implementation team and the project team will need to be aware of scope creep and remain focused on the specific area of handover.

Intensive education and training program

The required amount of education and training will vary, but these activities should involve all current staff (and potential staff, especially where staff are on a rotation roster). Working patterns should be considered as it may be more difficult to schedule training for part-time or casual roster staff. Face-to-face training is recommended but the project team should also consider e-learning and 'train the trainer' strategies.

The implementation phase must include intensive education and training programs for all staff. The program should provide enough information to allow the adoption of the process and the standard content delivery. The design of these educational programs should be simple and competency-based. The following table outlines suggested content for the education and training program.

Table 9: Suggested content for clinical handover education and training

Patient safety and medical errors

- Medical errors are common.

- Communication problems are one of the major causes of medical errors.

- Patient safety requires systems interventions and a safety culture.

- In a handover situation, standardisation is the systemic intervention.

- The success of the process requires everyone to learn it, embrace it and encourage other people to follow it.

Handover is a high risk area for patient safety

- Local case study.

- Some data and statistics from the literature (they should tailored to the local clinical context, e.g. nursing versus medical, specific wards).

- The lack of standardisation is the major risk of clinical handover.

Handover is a priority for patient safety improvement, nationally and internationally

- Handover is a high priority area for patient safety improvement internationally.

- Handover is a high priority area for patient safety improvement in Australia and is a priority for the Australian Commission on Safety and Quality in Health Care.

- Discussion of current initiatives in this area.

- Handover is a priority area for improvement within the local setting.

The local standardised process for handover

- Current handover process and problems associated with it.

- The rationale for the new process.

- The new standardised process of handover must be introduced in a step-by-step manner until all participants understand the process.

The local standardised content for handover

- Current content of handovers and problems associated with it.

- The rationale for a standardised content transfer.

- Introduction of the standardised content transfer.

Techniques to improve communication/team work during handover

- Any techniques which may be introduced, such as team work or communication techniques.

Local implementation plan, including consideration for e-learning

- Overview of implementation plan.

- Date that it will start (be clear and specific).

- Feedback and contact number for the team.

Collaborative learning

As the new handover process is spread to other units and/or scenarios, the project team should facilitate opportunities where unit and ward staff can share experiences and carry out some collaborative learning. This could include:

● **Pilot site showcase**

The pilot team should invite staff who are about to commence implementation to visit wards and units where implementation has already occurred. This provides opportunities for interdisciplinary and interdepartmental learning as well as exchange of ideas.

● **Regular seminars by clinical champions**

Organising regular seminars provided by clinical champions facilitates continual staff up-skilling and engagement. The seminars could include the following topics:

- feedback and continual evaluation from wards and units

- anticipated expansion and spread

- success stories and experiences

- problems and challenges faced

- suggestions for future improvement.

Promotional strategies

Engage staff during the implementation phase through marketing and branding strategies to ensure widespread uptake. Consider activities that celebrate success stories in order to generate momentum for widespread adaptation of the standardised process and contents. Project promotion strategies could include:

● distribution and posting of materials, such as brochures, posters and lanyards

● marketing and branding of the handover tools.

Annual handover awareness campaigns for the whole organisation should be considered. A re-audit of compliance should be undertaken and new processes rewritten if necessary.

6.3 Tools and techniques

Individual work plan

This is a detailed individual work plan for each site/clinical area that can be adapted for use by the project team.

Table 10: Individual work plan

	Task name	Duration	Start date	Finish date	Dependencies	Resources
O	Define and assign a governance group					
	Identify governance group					
	Identify senior administrator 'contact' for resource decisions					
	Assign representatives individual groups					
	Assign facilitator					
	Develop and approve a work plan					
	Initial draft of work plan					
	Review and revision of plan					
	Approval of the work plan					
	Risk assessment of the process					
	Identification & prioritisation of failure risks					
	Proposal for adaptation or redesign of the process					
S	Develop and approve a standardised process					
	Review the initial draft					
	Revision of standardised process if necessary					
	Approval of the process					
	Approval of the tools to assist implementation					
	Develop and approve standardised content					
	Review the initial draft					
	Revision of standardised content					
	Approval of standardised content					
	Approval of information tools					
S	Develop a communication strategy					
	Initial communication					
	Update newsletters					
	Other communication platforms					
I	Pilot test the process					
	Identify pilot test protocol					
	Set a 'go live' date					
	Ensure all tools available for pilot					
E	Develop an evaluation plan					
	Structure evaluations					
	Process evaluations					
	Content evaluations					
	Outcome evaluations					
	Dissemination of results					
	Initial draft of maintenance plan					
	Review and revision of plan					
	Approval of the maintenance plan					

Evaluation and maintenance – Phase 5

7.1 Objectives of this phase

7.2 Evaluating the solution

7.3 Tools and techniques

An evaluation plan should be developed so the project team can measure and continue to improve handover practice during implementation.

A maintenance phase is pivotal to the sustainability and long-term success of a clinical handover improvement project. It is important that this is not the responsibility of just one individual.

The project team should ensure there are ongoing resources and responsibilities to enable the project to continue regardless of staff turnover and promotions.

There are many frameworks and strategies available to guide the development of an evaluation plan. This chapter offers an approach that builds on the measurement work undertaken prior to implementation (for example, the observations conducted during Phase 1 – organisational leadership).

7.1 Objectives of this phase

Local context and flexible adaptation of standardised solutions continue to be important considerations during the evaluation and maintenance phase of clinical handover improvement. The five objectives in this phase are to develop:

- tools to evaluate the impact of the clinical handover improvement process
- an evaluation framework and plan
- strategies to disseminate evaluation data locally
- strategies for continuing education and training for relevant staff
- strategies to maintain clinical handover improvement.

7.2 Evaluating the solution

Resources for the evaluation and maintenance phase

This phase requires significant resources and staff time. Human resources are necessary for the continual engagement of staff and to ensure a continual supply of support tools (e.g. brochures, posters). Once the clinical handover solution has been implemented throughout the organisation, regular monitoring of key parameters should continue for at least three years.

The evaluation plan should include some monitoring activities to ensure:

- early identification of 'drifting' and 'deviations'
- identification of potential unintended consequences, such as increased data entry work for staff, distraction from other tasks due to additional time spent on handover and gaps in the patient record due to the creation of handover forms that are not integrated
- that the handover solution is integrated with the current clinical practice
- that new improvements are incorporated as evidence and knowledge is gained in the area of clinical handover.

Pre-implementation and post-implementation measures

Comparing pre-implementation and post-implementation data is a useful measure for your handover improvement project. Use the methods in chapter three for collecting pre-implementation data to now collect the post-implementation data and compare the results.

Periodic analysis of evaluation data is required in order to revise the clinical handover solution in keeping with the principle of flexible standardisation taught in this guide. Evaluation data should be collected at a specific pre-defined interval (e.g. three-monthly).

Evaluation content

The following measures can be used in the evaluation plan:

- structural measures such as demographic and structural data about units and their handover processes
- process measures such as:
  - consistency and completeness in the performance of critical steps in the new process
  - level of participation of staff as specified in the process design
  - time for completion of the new handover process
  - effectiveness (e.g. follow-up calls for additional information or clarification)
  - efficiency measures for patient care (e.g. length of stay).

- content measures, including:
  - consistency and completeness of delivery of required content
  - consistency of transfer of information, responsibility and accountability
  - efficiency of the content transfer
- cultural measures, including:
  - staff and patient satisfaction.

Learning from adverse events

Gaps in the continuity of patient care resulting from breakdowns at handover will not usually cause harm, as a robust and resilient system provides other barriers to patient harm. However, it is beneficial to learn from adverse events involving handover when they do occur. When examining the handover incident staff should consider if the handover improvement solution could be adapted to avoid or minimise the risk of similar patient safety incidents in the future.

Dissemination of evaluation data

The evaluation phase should include the provision of regular reports of aggregate and analysed data to the governance group and to all staff to encourage future improvement.

> **'We always tend to debrief when there's a problem, but [positive debriefing] reinforces the positive processes and people can learn what's right and what's wrong.'**
>
> *Participant, November 2008 clinical handover workshop*

Provision of continual education and training for relevant staff

Within the clinical environment, there is often a regular turnover of staff. All staff must be provided with the knowledge and skills on the organisation's handover practices, prior to commencement of employment.

Continuing staff will also benefit from regular refresher courses in order to continue delivering best practice and best performance. The project team should be aware of new research on clinical handover so the team can update their staff education and training package accordingly.

What happens when the project is 'over'?

This guide recommends that a plan is prepared for maintenance of clinical handover improvement. That is, that the project is never 'over'. However, it is not necessary to continue the focus, resources and energy needed for the design and implementation of the standardised process. In practical terms this means that the project team can be disbanded, but the standardised process must be documented and become part of hospital policies.

Maintenance and updating of the standardised solution is an organisational responsibility that will sit with a designated individual, as will educating new staff on the new process. For a small unit, organisation and planning for maintenance may be simple; for a large institution, it may be necessary to plan ahead.

This plan could include a 'let's look again at handover' month every year or two, promoted and organised by senior management to encourage units to collect new data and update or improve their processes as necessary.

7.3 Tools and techniques

Evaluation techniques

Different data collection processes and techniques can be used in this phase. The project should consider the pros and cons of various techniques. Often a combination of techniques can be beneficial. Some examples include:

- direct observations
- interviews with participating staff
- a retrospective audit of documentation
- a prospective audit of documentation
- incident reporting
- mortality and risk estimation techniques
- reflective methods, such as video-reflective ethnographic methods (Iedema et al, 2009).

Table 11: A sample evaluation plan

Measures	Parameters	Collection method	Evaluation interval (sample answers)	Reporting (sample)
Structural measures				
Type of organisation (urban/rural; public/private; community/academic; etc.)				
Size of organisation (beds; visits)				
Specific types of handovers where a process has been implemented and number of locations (e.g. number of wards)				
Process measures				
% of staff that understand the new process (practice and theory)		Survey and/or direct questioning of staff	After training, then at 3, 6, 12 months Repeated after alterations to the new process	All staff
% of handovers completed according to new process		Observation	Weekly for first month and then monthly	Random handovers
% of handovers interrupted		Observation	Weekly for first month and then monthly	Random handovers
% of handovers without needed documentation		Observation	Weekly for first month and then monthly	Random handovers
Average time for handover and cost of this time		Observation	Weekly for first month and then monthly	Random handovers
Participant and patient satisfaction		Survey and interview	Monthly	Monthly
Outcome measures				
Have clinical errors occurred due to insufficient information? Does analysis point to a specific problem with a handover scenario where a new process has been implemented?		Observational Incident monitoring	Observational work in high risk areas (e.g. ED, ICU) weekly for first month and then monthly. Incident monitoring	Random shifts Continuous

Note: Parameters – must be determined by the institution and based on their observational work prior to implementing the handover solution

Conclusion

As mentioned in the previous chapter, the project is never truly over and perhaps the OSSIE Guide should not end with a *Conclusion* but a *Continuation of OSSIE* section. Handover is a dynamic practice that can and should be allowed to change and evolve.

The OSSIE Guide makes organising, carrying out and sustaining the improvement to clinical handover a manageable activity. The OSSIE framework helps the project team by breaking up the handover improvement project into a stepped process of five phases with attainable goals and associated work tasks. By ensuring local ownership and support at all levels of the health institution, OSSIE can help the project team to introduce improvements to handover practices that are not just grudgingly accepted but are met with enthusiasm.

Introducing a change into clinical practice is not easy. It takes a substantial amount of time, resources and energy. Having said that, improving clinical handover is also an area where a determined local team has a real opportunity to make a positive impact and improve patient safety.

References

Australian Commission on Safety and Quality in Health Care. (2008). Windows into safety and quality in health care. Sydney: ACSQHC.

Australian Medical Association. (2005). National code of practice: hours of work, shiftwork and rostering for hospital doctors Australian Medical Association Ltd.

Australian Medical Association. (2006). Safe Handover: Safe Patients. Guidance on clinical handover for clinicians and managers [Electronic Version], from http://www.ama.com.au/web.nsf/doc/WEEN-6xFDKN

Bhabra, G., Mackeith, S., P., M., & Pothier, D. D. (2007). An experimental comparison of handover methods. *Annals of The Royal College of Surgeons of England, 89*(3), 298-300.

Bomba, D. T., & Prakash, R. (2005). A description of handover processes in an Australian public hospital. *Australian Health Review, 29*(1), 68-79.

Chaboyer, W., McMurray, A., Johnson, J., Hardy, L., Wallis, M., & Chu, F. Y. S. (2008). Bedside handover: quality improvement strategy to 'transform care at the bedside'. *Journal of Nursing Care Quality*, Epub date Oct 16, 2008.

Haig, K. M., Sutton, S., & Whittington, J. (2006). SBAR: A shared mental model for improving communication between clinicians. *Joint Commission Journal on Quality and Patient Safety, 32*(3), 167-175.

Iedema, R., Merrick, E., Kerridge, R., Herkes, R., Lee, B., Anscombe, M., et al. (2009). Handover - Enabling learning in communication for safety (HELiCS): A report on achievements at two hospital sites. *Medical Journal of Australia*, 190 (11), S133–S136.

Jagsi, R., Kitch, B., Weinstein, D., Campbell, E., Hutter, M., & Weissman, J. (2005). Residents report on adverse events and their causes. *Archives of Internal Medicine, 165*(22), 2607-2613.

Lillrank, P., & Liukko, M. (2004). Standard, routine and non-routine processes in healthcare. *International Journal of Health Care Quality Assurance, 17*(1), 39-46.

Manias, E., & Street, A. (2000). The handover: uncovering the hidden practices of nurses. *Intensive & Critical Care Nursing, 16*(6), 373-383.

O'Connell, B., & Penney, W. (2001). Challenging the handover ritual. Recommendations for research and practice. *Collegian, 8*(3), 14-18.

Patterson, E. S. (2008). Structuring flexibility: the potential good, bad and ugly in standardisation of handovers. *Quality and Safety in Health Care, 17*, 4-5.

Pothier, D., Monteiro, P., Mooktiar, M., & Shaw, A. (2005). Pilot study to show the loss of important data in nursing handover. *British Journal of Nursing, 14*(20), 1090-1093.

Roughton, V. J., & Severs, M. P. (1996). The junior doctor handover: current practices and future expectations. *J. R. Coll. Physicians Lond., 30*(3), 213-214.

Sexton, A., Chan, C., Elliott, M., Stuart, J., Jayasuriya, R., & Crookes, P. (2004). Nursing handovers: do we really need them? *Journal of Nursing Management, 12*(1), 37-42.

Singh, H., Thomas, E. J., Petersen, L., & Studdert, D. M. (2007). Medical errors involving trainees: a study of closed malpractice claims from 5 insurers. *Archives of Internal Medicine, 167*(19), 2030-2036.

UK National Patient Safety Agency. (2004). Seven steps to patient safety. London: National Patient Safety Agency.

US Department of Defense. (2005). Healthcare Communications Toolkit to Improve Transitions in Care. from http://dodpatientsafety.usuhs.mil/index.php?name=News&file=article&sid=238

Webster, J. S., King, H. B., Toomey, L. M., Salisbury, M. L., Powell, S. M., Craft, B., et al. (2008). Understanding quality and safety problems in the ambulatory environment: seeking improvement with promising teamwork tools and strategies [Electronic Version]. *US Agency for Healthcare Research and Quality*, from http://www.ahrq.gov/downloads/pub/advances2/vol3/Advances-Webster_76.pdf

Wong, M. C., Yee, K. C., & Turner, P. (2008). *Clinical Handover Literature Review, eHealth Services Research Group, University of Tasmania Australia.* from http://www.safetyandquality.gov.au/internet/safety/publishing.nsf/Content/PriorityProgram-05

Ye, K., Taylor, D. M., Knott, J. C., Dent, A., & MacBean, C. E. (2007). Handover in the emergency department: Deficiencies and adverse effects. *Emergency Medicine Australasia, 19*, 433-441.

Yee, K. C., Wong, M. C., & Turner, P. (2009). "HAND ME AN ISOBAR": a pilot study of an evidence-based approach to improving shift-to-shift clinical handover. Medical Journal of Australia, 190(11), S121–S124.

Peer reviewed papers published by the RHH/UTAS team include:

Turner, P., Wong, M. C., & Yee, K. C. (2009). A standard operating protocol (SOP) and minimum data set (MDS) for nursing and medical handover: considerations for flexible standardisation in developing electronic tools. *Stud Health Technol Inform, 143*, 501–506.

Wong, M. C., Turner, P., & Yee, K. C. (2007). Socio-cultural issues and patient safety: a case study into the development of an electronic support tool for clinical handover. *Stud Health Technol Inform, 130*, 279-289.

Wong, M. C., Turner, P., & Yee, K. C. (2008). Involving clinicians in the development of an electronic clinical handover system - thinking systems not just technology. *Stud Health Technol Inform, 136*, 490-495.

Yee, K. C., Wong, M. C., & Turner, P. (2006). The role of information technology in medical error management - a new approach to holistically investigating medical handover in acute care settings. *Stud Health Technol Inform, 124*, 679-684.

AUSTRALIAN CHARTER OF HEALTHCARE RIGHTS

The Australian Charter of Healthcare Rights describes the rights of patients and other people using the Australian health system. These rights are essential to make sure that, wherever and whenever care is provided, it is of high quality and is safe.

The Charter recognises that people receiving care and people providing care all have important parts to play in achieving healthcare rights. The Charter allows patients, consumers, families, carers and services providing health care to share an understanding of the rights of people receiving health care. This helps everyone to work together towards a safe and high quality health system. A genuine partnership between patients, consumers and providers is important so that everyone achieves the best possible outcomes.

Guiding Principles

These three principles describe how this Charter applies in the Australian health system.

1 Everyone has the right to be able to access health care and this right is essential for the Charter to be meaningful.

2 The Australian Government commits to international agreements about human rights which recognise everyone's right to have the highest possible standard of physical and mental health.

3 Australia is a society made up of people with different cultures and ways of life, and the Charter acknowledges and respects these differences.

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AUSTRALIANCOMMISSIONON SAFETYANDQUALITYINHEALTHCARE

What can I expect from the Australian health system?

MY RIGHTS	WHAT THIS MEANS
Access	
I have a right to health care.	I can access services to address my healthcare needs.
Safety	
I have a right to receive safe and high quality care.	I receive safe and high quality health services, provided with professional care, skill and competence.
Respect	
I have a right to be shown respect, dignity and consideration.	The care provided shows respect to me and my culture, beliefs, values and personal characteristics.
Communication	
I have a right to be informed about services, treatment, options and costs in a clear and open way.	I receive open, timely and appropriate communication about my health care in a way I can understand.
Participation	
I have a right to be included in decisions and choices about my care.	I may join in making decisions and choices about my care and about health service planning.
Privacy	
I have a right to privacy and confidentiality of my personal information.	My personal privacy is maintained and proper handling of my personal health and other information is assured.
Comment	
I have a right to comment on my care and to have my concerns addressed.	I can comment on or complain about my care and have my concerns dealt with properly and promptly.