Improving surgical teamwork and communication

A guide to preparing and implementing

newzealand.govt.nz
Contents

Introduction 2
About this guide 3
The case for reducing perioperative harm 5
Goal 6
National measures 7
Overview of the national roll-out 8
The surgical teamwork and communication interventions 11
What does the ‘ideal’ day in theatre look like? 21
Preparation and implementation activities 23
Appendix A: Quality improvement approach 32
Appendix B: References 34
Improving surgical teamwork and communication

Introduction

Recent studies have shown that poor teamwork and communication in operating theatres has a negative impact on performance and patient safety. These suggest that improving teamwork and communication within surgical teams is critical to the success of reducing perioperative harm.

About one in ten hospital patients in developed countries experience an adverse event – 60 percent of these are surgical patients. Fourteen percent of these events lead to permanent disability or death and 20 percent lead to temporary disability. Communication breakdown is reported as the root cause in more than 50 percent of operative and postoperative adverse events. In 2012, 43 percent of New Zealand survey respondents believed that health professionals in their district health boards (DHBs) did not work well together as a team, and 31 percent said they found it hard to speak up when they saw problems with patient care.

Surgical safety checklists, briefings and debriefings aim to improve the quality and safety of health care services provided to patients undergoing surgical procedures, and prevent adverse events. These have been found to deliver benefits including better teamwork and communication, better satisfaction with care, better processes and reduced error rates.

The Health Quality & Safety Commission (the Commission) recognises that the surgical safety checklist is now routinely used during operations in every DHB. However, it has not reached its full potential as a tool to improve teamwork and communication within the surgical team.

During 2014 the Commission’s reducing perioperative harm programme worked with three sites (Waikato and Lakes DHBs and Southern Cross Hospitals’ Auckland Surgical Centre) on a proof of concept project aimed at testing interventions to improve teamwork and communication in operating theatres. The interventions are:

- briefing
- paperless surgical safety checklist
- debriefing
- supporting communication tools, such as ISBAR (identify, situation, background, assessment, recommendation), two challenge rule, call-outs and closed-loop communication.

The proof of concept project reported that the implementation of the interventions resulted in an improvement in both the participants’ perception of their colleagues’ communication and collaboration skills, and in the overall culture of the team. Theatre team members commented that the benefits of the interventions included improved levels of teamwork, a more inclusive culture, improved communication and improved preparation for operations.

For more information see the final report: Improving teamwork and communication within surgical teams – a proof of concept project available on the Commission’s website at: www.hqsc.govt.nz/our-programmes/reducing-perioperative-harm/publications-and-resources/publication/2045.
This guide is intended to help project leads and their teams prepare for and implement the teamwork and communication interventions in their theatres and surgical teams. It will assist with putting key success factors in place during a three-month preparation period. It outlines a quality improvement approach to preparing for and implementing the interventions across operating theatres. The contents and the approach can be modified depending on local context, experience and decisions about implementing the interventions.
Improving surgical teamwork and communication
The case for reducing perioperative harm

>300,000 publicly funded operations are performed in New Zealand each year.

759 patients’ suffered deep vein thrombosis/pulmonary embolism while still in hospital or readmitted within 28 days of surgery.

2178 The patients needed an estimated 2178 extra bed-days.

Estimated cost $1.7 million

205 claims
Between 2005–06 and 2010–11, ACC accepted 205 claims for retained equipment or wrong-site surgery.

Foreign bodies left in during a procedure
OECD average 5.0
New Zealand rate 10.6

Accidental puncture or laceration during surgery
OECD average 220
New Zealand 405

The World Health Organization’s Surgical Safety Checklist covers a core set of safety checks. A more systematic use of the checklist is likely to lead to an estimated 21–36 percent reduction in avoidable complications. The anticipated benefits to the public health system from this reduction is estimated at $5.7 million per annum.

21–36% reduction in avoidable complications $5.7 million per annum benefits to public health system

Clinical Governance Assessment Project
31% of respondents said they found it hard to ‘speak up’ when they saw problems with patient care.

43% of respondents believed that their CHN did not work well as a team.
Our goal is to improve teamwork and communication within surgical teams in New Zealand. This is expected to contribute to reducing perioperative harm. The surgical teamwork and communication interventions promoted have been tested through the proof of concept project. The Commission will support organisations to implement these interventions.
A new process quality and safety marker (QSM), which will be introduced from 1 July 2016, will look at how engaged teams are and use an observational audit methodology. The exact marker will be developed in parallel with the implementation of the surgical teamwork and communication interventions. This marker will help the Commission and DHBs know whether there has been an improvement in teamwork and communication in surgical theatres at a national level. You and your organisation will have an opportunity to provide feedback on the new QSM before it is finalised. The previous process QSM was retired at 30 June 2015; the existing outcome QSMs (which measure rates of venous thromboembolism, pulmonary embolism and sepsis) will remain.

An app was developed during the proof of concept project to aid measuring for improvement. It looked at compliance as well as engagement with the interventions. You will be able to use this during your implementation period. It will be updated to aid the collection of data for the new QSM when it is released. You will receive training in both the observational audit method and using the app.

A surgical safety culture survey is being used by the Commission to measure changes in the culture of surgical teams. Surgical teams will be surveyed during July 2015 – the results will form baseline information on the safety culture within operating theatres in New Zealand. The questionnaire is based on the surgical safety culture questionnaire developed by Harvard University School of Public Health. The survey will be repeated in 2017.
Overview of the national roll-out

The national roll-out will be staggered across three cohorts. Staggering allows:

- the Commission to work with the willing in the first instance and spread change rather than forcing change on those who are not yet at the right stage
- for the establishment and support of regional hubs for sustained improvement
- for adequate preparation time, identified by the proof of concept project as being essential.

DHBs advised the Commission of their preferred cohort. The cohort members are:

**Cohort 1**
- Lakes DHB
- Waikato DHB
- Northland DHB
- Auckland DHB
- Counties Manukau Health
- Taranaki DHB
- Waitemata DHB

**Cohort 2**
- Capital & Coast DHB
- Hutt Valley DHB
- Wairarapa DHB
- Taivawhiti District Health
- Canterbury DHB
- Nelson Marlborough DHB
- Whanganui DHB
- Bay of Plenty DHB

**Cohort 3**
- West Coast DHB
- Hawke’s Bay DHB
- South Canterbury DHB
- Southern DHB
- MidCentral DHB

Some DHBs have been working on elements of the interventions independently and/or through the Productive Operating Theatre’s (TPOT) Team-working module. The national roll-out will enable all DHBs to build on this work and learn from each other.

It is expected that private surgical hospitals will work with their local DHB to implement the interventions. The Commission, the New Zealand Private Surgical Hospitals Association and Southern Cross are working together to confirm how this will be facilitated.

The roll-out timeframe (between July 2015 and January 2017) ensures each of the three cohorts have a three-month preparation period and nine-month implementation period. The preparation period for cohort two and three has been extended to account for December and January.
It is anticipated that by the end of the implementation period cohort members will have embedded the paperless checklist into usual practice (considering local circumstances) and started implementing briefing and debriefing. The communication tools outlined in this guide can be used to support the interventions.

The paperless checklist will need to be implemented in enough theatres to allow for sufficient data collection for the new QSM, which will be in place from 1 July 2016. More advice on the new QSM will be provided during the roll-out.

Support for cohort members

Each cohort will be supported by the Commission throughout their preparation and implementation periods. This support will include:

- bi-monthly, cohort-specific webinars/conference calls
- hosting a learning session during the preparation period for each cohort:
  - cohort one – Auckland, August 2015
  - cohort two – Wellington, November 2015
  - cohort three – Christchurch, February 2016
- on-site intervention training during the preparation period
- on-site visits to cohort members
- regular newsletters and emails to share learning
- telephone calls as required
- printed and downloadable resources to assist implementation as required
- on-site observational auditor train-the-trainer sessions during the implementation period
- time-limited funding for organisations to use the teamwork and communication data collection and reporting app (web and mobile device accessible) for the new QSM
- quality improvement advice and assistance
- national clinical leadership that will work with cohort members’ clinical leads and champions.
A national team has been established to provide this support:

- A Project Manager will provide national coordination and management.
- A Quality Improvement Advisor will provide quality improvement advice and assistance.
- A Medical Clinical Lead will work with cohort members’ clinical leads and champions.
- A Nursing Clinical Lead will work with cohort members’ clinical leads and champions.
- A Senior Advisor (clinical) will provide additional advice to cohort teams.
- A Senior Analyst will provide measurement and evaluation advice and assistance within the national team.

Additional support will be provided by an intervention trainer and an observational audit trainer.

Your key contact will be the Project Manager. You will have received an email with contact information.
The surgical teamwork and communication interventions

The surgical teamwork and communication interventions that will be the focus for the national roll-out are:

- briefing before the list begins
- paperless surgical safety checklist during each operation
- debriefing at the end of the list
- supporting communication tools:
  - closed-loop communication
  - call-outs
  - two challenge rule
  - ISBAR (identify, situation, background, assessment, recommendation).

Many studies on the effectiveness of surgical safety checklists have been undertaken, with most showing reductions in surgical mortality and complications. A 2014 systematic review of 16 studies of surgical safety checklist implementation in hospitals worldwide noted that checklists ‘have been shown to significantly improve patient outcomes subsequent to surgery, and therefore their use is being widely encouraged and accepted’.6

The evidence is also strong for briefings and debriefings. In a 2015 article in the *Australian and New Zealand Journal of Surgery*, Civil and Shuker noted that ‘briefings and debriefings in the theatre environment have reduced communication failures by two-thirds, reduced non-routine events by 25%, effectively surfaced potential surgical safety hazards, reduced staff perception of risk and increased their sense of team collaboration, and in a Johns Hopkins study, reduced unexpected delays by 31% and surgeon-reported unexpected delays by 82%’.7 There is also a powerful link between routinely undertaking briefings and the safety culture within the operating theatre.8

The following pages provide an overview of the interventions and evidence. For more details on the evidence base behind the interventions, see Checklists, briefing and debriefing: an updated evidence summary at: www.hqsc.govt.nz/our-programmes/reducing-perioperative-harm/publications-and-resources/publication/2209.
Improving surgical teamwork and communication

**Briefing**

It is recommended that surgical teams take time prior to the start of each day’s operating theatre list to complete the team briefing. The briefing is a standardised communication tool that aims to create an environment in which individuals can speak up and express concerns, and alert team members to unsafe situations in a timely manner.

> ‘The team meets first and fully discusses the entire list. This enables changes to be made if necessary prior to any concerns normally found during the operation.’  
> - Surgeon, proof of concept

Findings from the proof of concept project indicate that a small time investment at the start of the list can save time over the list’s duration and increase efficiency. A 2015 study in orthopaedics bears this out, with a reduction in interruptions and delays during the surgical list, and increased surgeon satisfaction after implementing briefings. The study also noted that the briefing averaged less than a minute per case.9

The team briefing should occur as a four-step process with all steps completed prior to starting the list:

1. Introductions
2. List outline
3. Case events for each case
4. Staffing and questions.

> ‘Overall the concept of the team briefing is excellent. Everyone has an overall view of the day and problems are discussed before the list starts, eg, allergies, positioning, equipment, etc.’  
> - Theatre team member, proof of concept

We recommend that the person who knows the most about the list and patients leads the briefing.

Briefings enable the sharing of the operative plan, promote teamwork, mitigate hazards to patients, reduce preventable harm and ensure all equipment is available. They supply a broader knowledge base for the planned procedure so each team member has a better understanding of the tasks at hand, and can anticipate future events and pre-plan accordingly.
Start-of-list briefing

1. Introductions
   Ensure all team members are present and have introduced themselves
   Indicate that debriefing will take place at the end of the list

2. List outline
   Provide an overview of:
   - The cases on the list
   - Anticipated duration
   - Any changes or modifications to list
   - Any uncertainties, and identify ways of updating information during the day
   - Any other patient information not already noted on the list/notes

3. Case events
   Review the details for each case:
   - Patient name
   - Planned procedure
   - Estimated duration

   Surgical plan:
   - Key points and any specific requirements not already identified
   - Blood loss risk
   - Potential difficulties and contingency plans
   - Confirm specific equipment requirements

   Anaesthetic plan:
   - Type of anaesthetic
   - Any issues or concerns
   - Difficult airway or aspiration risk

   Repeat Step 3 for every case

4. Staffing & questions
   Confirm everyone is clear on their roles and responsibilities
   Ask team if they have any questions or concerns
Paperless surgical safety checklist

This is about refining the current use of the surgical safety checklist, rather than a completely new activity. The surgical safety checklist is not meant to be used as a ‘tick-box’ exercise – it is meant to ensure the theatre team performs key safety checks as a team, without having to rely on memory, increase verbal communication in the operating theatre and instil a sense of shared accountability for the outcome of the procedure. However, it is important for all three parts (sign in, time out and sign out) to be completed, as this increases the checklist’s effectiveness.¹⁰

The proposed approach is that theatre teams use a large poster-sized version of the checklist on the wall of the operating theatre. It acts as an aide memoire for the person leading each section of the checklist. Having the checklist on the wall allows for all members of the team to see what will be asked and to use it as a discussion guide rather than a ‘tick-box’ exercise.

Studies and local experience have shown improvements are made when different team members lead the three parts of the checklist. There is more team engagement and appropriate team members are present. We recommend that the:

- anaesthetist leads sign in with nursing and anaesthetic team members present
- surgeon leads time out with all team members present
- nurse leads sign out with all team members present.

Paper forms should no longer need to be completed, and a review of case notes will no longer be required for the Commission’s checklist QSM from 1 July 2015.

‘Information is not relayed by telepathy. The [interventions] help clarify in my mind whether I have considered all aspects of patient’s anaesthesia and interventions required.’

- Anaesthetist, proof of concept
Surgical safety checklist

1. Sign in
   - Confirm surgeon available
   - Before induction of anaesthesia, confirm with patient:
     - Identity
     - Site and side
     - Procedure
     - Consent
   - Site marked or not applicable
   - Does the patient have:
     - Known allergies?
     - Difficult airway or aspiration risk?
     - If yes, is equipment/assistance available?
     - Risk of >500 ml blood loss recorded (7 ml/kg in children)?
     - If yes, are adequate intravenous access and fluids planned?
   - Anaesthesia safety checklist completed
   - Check and confirm prosthesis/special equipment to be used

2. Time out
   - Before an incision, confirm all team members have introduced themselves by name and role
   - Surgeon, anaesthetist, and nurse verbally confirm:
     - Patient
     - Site and side
     - Procedure
     - Consent
     - Any known allergies
   - Anticipated critical events
     - Surgeon reviews:
       - Critical or unexpected steps, operative duration, anticipated blood loss?
     - Anaesthesia team reviews:
       - Patient specific concerns?
       - Has the ASA score been recorded?
     - Nursing team reviews:
       - Has sterility (including indicator results) been confirmed?
       - Are there equipment issues or concerns?
   - Has antibiotic prophylaxis been given within the last 60 minutes?
   - Has the plan for VTE prophylaxis during the operation been carried out?
   - Is essential imaging displayed?

3. Sign out
   - Verbally confirm with the team after final count:
     - The name of the procedure recorded
     - That instrument, needle, sponge and other counts are correct
     - How the specimen is labelled (including patient name)
   - The plan for ongoing VTE prophylaxis
   - Whether there are any equipment problems to be addressed
   - Postoperative concerns/plan for recovery and management of this patient
Debriefing

A five-minute debriefing should be completed in theatre at the end of the patient list (for both full-day and half-day patient lists). This means before the last patient leaves theatre, while all team members are present or before teams change. The poster on the wall prompts discussion. The debriefing is completed verbally and no written documentation is necessary. It will be important to capture informally any actions arising from the debriefing to ensure identified issues are resolved and suggestions for improvement acted on.

Debriefings allow teams to take time to learn from real-time situations that went well or didn’t go to plan by discussing what happened after an operating session. They provide opportunities for improvement, learning not blaming, improvement in staff wellbeing and a forum to say thank you. In a 2014 study in Florida, the participating hospital found that debriefing supported continuous process improvement by encouraging each team member to creatively identify solutions to issues encountered during the perioperative period.11

During the debriefing team members are encouraged to raise any concerns or suggestions they may have had during any of the operations on the list, discuss what went well and not well and why, and what can be improved or done better next time.

As part of debriefing, DHBs must implement some kind of action–feedback loop for instances where changes or improvements need to be made. It is essential that learnings from debriefings are acted on or the use of the tool will rapidly diminish.

‘Team debriefs highlight areas that can be improved, eg, always needing this piece of equipment for this particular surgery. I think it makes everyone feel part of the team.’

– Nurse coordinator, proof of concept
End-of-list debriefing

Wrap-up
Ensure all members of the operating team are present

What happened?
What went well? What did not go well?

Why?

Suggestions for improvement
What can we do better next time?
Supporting communication tools

The table below links the supporting communication tools with briefing, the surgical safety checklist and debriefing.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Briefing</th>
<th>Surgical safety checklist</th>
<th>Debriefing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call-outs</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Closed-loop communication</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>ISBAR</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Two challenge rule</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
</tbody>
</table>

While using these tools may seem awkward or forced at first, over time they become natural and are an important part of enhancing the interventions.

Call-outs

A call-out is when someone vocalises or shouts out an important piece of information. Call-outs are most often used during emergency situations but can be useful in non-emergency situations too.

Information that all team members need to know or will be critical for subsequent actions are good topics for call-outs during team briefings and the surgical safety checklist.¹²

1. Define a set of circumstances under which call-outs are expected to be used. Start small.
2. Use improvement cycles (see Appendix A) to:
   a. fine-tune the technique by first testing it with a small group of willing participants. Practice through role plays or simulations
   b. broaden use of the technique to other staff, specialties and procedures.
Closed-loop communication

When we communicate with others, we cannot be sure they have heard us as intended unless they tell us what they heard.13 This is the concept behind closed-loop communication. Closed-loop communication ensures the sender of information knows the receiver of the information has heard and understood their instructions.

Misinterpreted communication has the potential to lead to adverse events. It is always important to ensure a message or instruction has been transferred as intended. Repeating back instructions right away to clarify what has been said means the receiver knows they got the correct message.

Closed-loop communication is an important tool that can be applied to theatre team briefings, the surgical safety checklist and debriefing.

1. The sender states their message/instruction.
2. The receiver accepts the information and acknowledges its receipt.
3. The sender verifies the information has been interpreted correctly.

ISBAR

ISBAR is a framework for communicating information in a clear, contextualised and collaborative way. When adopted by all members of the surgical team, patient information is more easily and clearly conveyed, with minimised risk of misinterpretation. ISBAR can be used in person or over the phone, in handovers between units and at shift changes.14

In particular, ISBAR is useful during theatre team briefings, the surgical safety checklist and debriefings. Each of these interventions requires patient information to be shared between team members in a collaborative way.

Using ISBAR will help to ensure team members are operating with the same level of understanding and within the same context. Importantly, this tool allows staff to communicate assertively and effectively, reducing the need for repetition.15

1. **Identify**: Identify the patient.
2. **Situation**: What is the situation at hand?
3. **Background**: What is the relevant background information about the patient?
4. **Assessment**: What is your assessment of the situation?
5. **Recommendation**: What do you think should be done, or what do you need?
   - What is the specific solution to the problem?
Two challenge rule

It is human nature to say something only once, and to often not listen to something the first time. The two challenge rule supports the speaker to raise their concerns twice if those concerns are not addressed the first time.

This rule highlights the responsibility of the listener to respond to the speaker, at least the second time the speaker asserts their concern. If the listener continues to be unresponsive, the two challenge rule empowers the concerned speaker to act and raise their concern with someone able to address the situation effectively.

1. **Raise your concern for the first time** and wait to be addressed by the team member to whom you are speaking.

2. If your initial request is not heard, **speak up again**. Assert your concern at least twice.

3. It is the **responsibility of the listener** to respond.

4. If the listener does not respond, the speaker should **raise their concern with someone able to address the situation**.

A practical example of use of the two challenge rule is in the *Just a Routine Operation* video produced by pilot Martin Bromiley, who as a result of personal experience founded the Clinical Human Factors Group in the UK in 2007. The video is available at: [www.institute.nhs.uk/safer_care/general/human_factors.html](http://www.institute.nhs.uk/safer_care/general/human_factors.html).
What does the ‘ideal’ day in theatre look like?

Here is an ideal approach to aim for when the interventions have been implemented.

Before the list begins – briefing

The first patient is due into theatre shortly. The team gathers for its standard pre-list team briefing. The team knows that a regular briefing is an indicator of a strong team culture as it increases team collaboration and reduces risk. It is the opportunity for all team members to speak up and, as a result, reduce communication failures.

The briefing is led by the person who knows the most about the list, typically the surgeon or anaesthetist. With all team members present, the briefing begins. Using the team briefing poster on the theatre wall, the first part of this four-step process is introductions. This is a quick round of all those present stating their name and role. This breaks the ice – with everyone wearing theatre scrubs, assumptions about roles and experience can occur if a round of introductions does not take place. Today we have a student nurse and a trainee house surgeon present. Following introductions everyone knows who is who and feels more relaxed, involved and part of the team.

Next we move onto the list outline. A general outline of the list occurs. Confirmation of the cases on the list is first – eg, today the list consists of short cases so the logistics of a quick turnaround of cases is factored into the day. The anticipated duration is then discussed – this helps anticipate when the next case needs to be called for, or if any break cover is required. Any changes or modifications, such as a late cancellation, or order change which people need to know about are discussed. Any uncertainties, such as a specific piece of equipment required, can be confirmed at this time. The last step of the list outline is discussing any other patient information not already on the list. Today a translator will be required for the third case, so consents can be managed by the surgeon and anaesthetist.

The team then moves onto the third step of briefing – case events. This is a more in-depth review of the details for each case. Confirmation of patient name, the planned procedure and estimated duration occurs. Then the surgical plan is discussed, with key points and specific requirements not already identified. Today the second case requires specific positioning. Any potential difficulties are identified and contingencies planned for. Following on from the surgical plan is the anaesthetic plan. The anaesthetist goes over each patient’s plan, including type of anaesthesia, any issues or concerns, and any airway or aspiration risk.

Typically the whole briefing process takes about five minutes; the team agrees it is time well spent. Having a broader knowledge of the planned procedure, each team member now has a better understanding of the tasks at hand. Future events can now be anticipated and pre-planned accordingly.

The team has the chance to ask any questions, and confirm everyone is clear on their roles and responsibilities. Everyone has an equal voice and an equal opportunity, which is empowering for all staff. At this point the team is informed that a debriefing will occur at the end of the list.
**Paperless surgical safety checklist for each operation**

Since the removal of the paper-based checklist, the team is much more engaged. Having the checklist on the wall makes it a discussion point for all staff. The *sign in* is led by the anaesthetist with nursing and anaesthetic team members present, prior to the induction of anaesthesia. The *sign in* covers areas such as patient and site identification, anaesthesia safety check and special equipment check.

Before the skin incision we have a *time out* – the surgeon leads with all team members present. Confirmation is made that all members of the team have introduced themselves by name and role (the team may have changed since the briefing this morning, so it is important to quickly do this step again). Any anticipated events from a surgeon, anaesthetic team (including ASA score) and nursing team perspective are discussed, as well as venous thromboembolism and antibiotic prophylaxis. Everyone is satisfied and we are able to proceed.

At the end of the operation, with all team members present and before the patient leaves the room, we have our *sign out*, led by theatre nursing staff. A good time to do this is during closing as the surgeon is still present. All counts are checked and signed off when correct. Any concerns are identified for postoperative care such as potential blood loss and plans for analgesia while in the post-anaesthesia care unit (PACU) and for the ward.

Strong team engagement and communication are central features now we have moved away from a paper-based tick-box approach.

**End of the list – debriefing**

Immediately after completion of the list we have our team debriefing. A good time to do this is immediately after the *sign out* for the final case on the list. All team members will still be present. In our theatre it is led by the theatre charge nurse manager.

We start with a *wrap up*, which is simply ensuring all team members are still present. We discuss what went well, what didn’t go well and what should be done differently next time. The debriefing allows an opportunity for learning not blaming, and improves the team culture, eg, an improvement in staff wellbeing from taking the time to say thank you. We ask ‘what can we improve and do better next time?’, focusing on our systems and looking for areas of improvement. Suggestions for improvement, such as missing items in the theatre cart that should have been stocked, can then be remedied immediately.
A guide to preparing and implementing

Preparation and implementation activities

This section outlines the activities and outputs we recommend project teams do as part of the preparation and implementation periods.

Preparation period

The period has been split into monthly activities to help manage the work required to prepare for implementation. By breaking work into chunks of actions you will be able to put in place the things needed to ensure the organisation is ready for implementation. Remember we have expanded the preparation periods for cohorts two and three to account for December and January.

You can prioritise the actions you focus on, particularly those that work for you and your organisation. If you find actions take longer than anticipated, keep working on them within the preparation period.

Month one – commitment

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Establish the project team</td>
<td>Project team confirmed</td>
</tr>
<tr>
<td>☐ Know your starting point</td>
<td>Completed assessment – starting point understood</td>
</tr>
<tr>
<td>☐ Agree what you are trying to accomplish</td>
<td>Agreed goal statement</td>
</tr>
</tbody>
</table>

Y ou can prioritise the actions you focus on, particularly those that work for you and your organisation. If you find actions take longer than anticipated, keep working on them within the preparation period.
## Action Output

### Confirm what intervention(s) you will be implementing

Now you know what your starting point is and what you are trying to accomplish, get agreement on what interventions you will be implementing where and when.

As a team you may choose to focus initially on implementing the paperless checklist and use the communication tools to support this. Alternatively you may choose to implement briefings, the paperless checklist and debriefings at the same time by having an initial trial site for each of the interventions prior to spreading the implementation to further sites.

### Agree how you will be implementing

Consider how you will implement the intervention(s) and the number of operating theatres and surgical staff you want to reach. You may want to start with a particular group of theatres or particular specialty. Set a date that works towards your goal. Once the interventions are implemented in those areas use your learning to implement in other areas.

We recommend using a quality improvement approach where you start with one surgical team to test the intervention, using improvement cycles to refine processes. Once the intervention works with the first team, move to testing with two teams, then three and beyond.

This process will benefit you in starting small with a willing team. It helps you iron out any issues and provides champions for your implementation. It also means that if you need to tweak an intervention for a team you can do so with minimal impact on others.

The Model for Improvement approach has four testing stages: Plan–Do–Study–Act (PDSA). Refer to Appendix A for a summary of the steps and tips.

At the learning session the Commission’s Quality Improvement Advisor will provide training on the Model for Improvement and give you an opportunity to share your experiences of this approach if you are already familiar with it.

### Agree how you will know that you have been successful

With your team, develop and agree how you will measure successful implementation and progress towards your goal. These will help you know whether the changes you make have made an improvement. Then identify how you will collect data for these measures and who will do this.

There are many resources available that can help you define these. Check out the TPOT Team-working and Knowing how we are doing modules (if you have them), the UK’s Patient Safety First paper The quick guide to implementing improvement, or the Institute for Healthcare Improvement’s Improvement Guide. Talk to the national team if you want further support.

### Align the project to your organisation’s aim

Aligning the project to your organisation’s aim, values or strategy will help you when engaging with senior staff members. You can communicate how your implementation relates to and benefits the organisation.
Agree how and where the project will report progress

Work with your executive sponsor to agree how and where progress reporting will be done. There may already be a surgical safety related committee or group into which the project fits.

Reporting progress helps in many ways, including:

- keeping you focused on what needs to be done and when
- allowing you to raise risks, challenges and issues for assistance
- raising the profile of the work you are doing.

The reporting shouldn’t be onerous – it should have limited impact on your time. Outline the current status of the project, any risks, issues or opportunities, and milestones coming up. We’ll ask how you are doing – you can use these reports to keep us informed too.

Know who you need to engage with to accomplish your goal

During the proof of concept pilot we learnt that engaging with staff and other stakeholders was crucial to the success of implementation. This is true for all change activities.

Below is a three-step process you can follow with your project team:

1. Identify who your stakeholders are.

   - What are the staff groups in your surgical teams? Eg, surgeons, anaesthetists, perioperative nurses (different levels), anaesthetic technicians, resident medical officers and junior nurses. Do you know how many are in each group? Do you know which theatres they are in?
   - What other staff groups will be affected by implementing the interventions? Nursing staff in related wards/outpatients and quality staff may be affected. Infection prevention and control nurses, porters and cleaning staff may also be affected indirectly. Think about the management and senior clinical groups you need to engage with.
   - Don’t forget to consider how you can engage consumers and their whānau.

2. Assess how much influence these groups have on the success of the project and how much interest they have. This can be done by placing groups in a grid with a low–high continuum.

3. Once you’ve assessed the groups, identify your champions (high impact and high interest) and those with whom you need to engage who have a high impact on the success of the project but a low interest.
### Improving surgical teamwork and communication

#### Action

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree how you will engage with staff and other groups</td>
<td>Engagement approach</td>
</tr>
</tbody>
</table>

Now that you know who you need to engage with, work out how you will do this. Every member of the project team will have a part to play in this. Look at where there are existing meetings where staff will be. Use a mixture of formal meeting presentations and informal discussions.

Identify the right people to do the engagement. There may be groups where an enthusiastic peer or champion will need to speak with your audience. Consider how your communications team could help you reach the wider staff group through the intranet or newsletters.

Engagement activities will be needed throughout the preparation and implementation periods. The messages you give may change to reflect the progress you have made.

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document the outputs of earlier actions</td>
<td>Project plan (sometimes known as a charter)</td>
</tr>
</tbody>
</table>

Put all of the outputs from the earlier actions into a project plan. This helps you and the project team know what you are doing, why you are doing it and when you will do it.

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participate in the cohort webinar</td>
<td>Attend webinar</td>
</tr>
</tbody>
</table>

This is an opportunity for you to talk with other leads and teams in the cohort and the national team. We’ll send you information on how to join the webinar and the agenda.

#### Month two – engagement

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report progress to your executive sponsor</td>
<td>Progress update</td>
</tr>
</tbody>
</table>

Your organisation has agreed to implement the interventions. Your executive sponsor has signed this off. They will want to see how you are progressing with preparation. Giving them regular progress updates will identify where the sponsor needs to visibly support the project.

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree your starting version of the paperless surgical checklist</td>
<td>Starting version</td>
</tr>
</tbody>
</table>

We’ve provided you with three copies of a paperless surgical checklist. This shows the minimum items to discuss during sign in, time out and sign out. We recommend using this as your starting version. We can send you additional copies if you need them. We will have other examples on our website that you may want to consider.

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree your starting version of the briefing poster</td>
<td>Starting version</td>
</tr>
</tbody>
</table>

We’ve provided you with three copies of the briefing poster. This includes prompts for the surgical team to follow during their briefing at the start of the list. We can send you additional copies if you need them.

We recommend using this as your starting version.
### Action

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Agree your starting version of the debriefing poster</td>
<td>Starting version</td>
</tr>
<tr>
<td>☐ Assess the challenges and opportunities relating to use of the paperless surgical checklist, briefing and debriefing posters and processes</td>
<td>Assessment and actions</td>
</tr>
<tr>
<td>☐ Identify the theatres and staff who are willing to be the initial sites</td>
<td>List of willing staff and theatres</td>
</tr>
</tbody>
</table>

**Agree your starting version of the debriefing poster**

We’ve provided you with three copies of the debriefing poster. This includes prompts for the surgical team to follow during their debriefing at the end of the list. We can send you additional copies if you need them.

We recommend using this as your starting version.

**Assess the challenges and opportunities relating to use of the paperless surgical checklist, briefing and debriefing posters and processes**

Introducing a new way of doing the checklist will have both challenges and opportunities. With the team, brainstorm what these could be. Think about how the checklist is currently used, where the completed checklist is filed and who uses the information collected from it.

We recommend that different members of the team lead each step – what will you need to consider when introducing this?

Use the following list to explore challenges and opportunities:

- patient
- staff
- environment
- processes
- tasks
- time
- team
- communication
- education/training
- equipment/resources.

Introducing briefings at the start of the list will also have challenges and opportunities. With the team, brainstorm what these could be. We recommend the briefing is led by the person in the theatre who knows the most about the list and patients. Consider how the briefing will be done in situ. It should take no more than five minutes.

Introducing debriefings at the end of the list will also have both challenges and opportunities. With the team, brainstorm what these could be. We recommend the debriefing occurs after the sign out step of the surgical safety checklist for the last patient on the list. Explore how the suggestions for improvement can be acted on so teams involved can see the benefits of debriefing.

**Identify the theatres and staff who are willing to be the initial sites**

As you engage with staff check who would be willing to be initial sites for implementing the intervention(s). Those who are willing are more likely to be patient with the initial improvement cycles.
<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Engage with staff at every opportunity</td>
<td>Attend key formal meetings, informal meetings</td>
</tr>
<tr>
<td>You’ve identified how you want to engage with staff. Use these opportunities to share key messages about the intervention(s) and how you will be implementing them. As well as planned activities, other opportunities may present themselves.</td>
<td></td>
</tr>
<tr>
<td>□ Communicate your project to the organisation</td>
<td>Internal communications</td>
</tr>
<tr>
<td>It will be important to share what you are doing with the wider organisation. This will raise awareness of what you are doing, make it visible at all levels of the organisation and generate interest in the project. Examples include items in internal communications and reports to the board and senior level groups.</td>
<td></td>
</tr>
<tr>
<td>□ Arrange intervention training for staff who are willing to be the initial site(s)</td>
<td>Date for intervention training</td>
</tr>
<tr>
<td>A member of the national team will contact you with details of the intervention training provider and to arrange a suitable date for staff to attend sessions.</td>
<td></td>
</tr>
<tr>
<td>Your role will be to find a suitable venue, promote the training and make sure the staff you want to attend can.</td>
<td></td>
</tr>
<tr>
<td>□ Participate in the cohort learning session</td>
<td>Learning session</td>
</tr>
<tr>
<td>Each cohort will have a one-day learning session. This will be an opportunity to get intervention and quality improvement training, have a forum for learning and sharing, and meet your fellow cohort members. We would like to have the project, clinical and quality leads at the session and welcome other members of your team to attend as well. We invite private hospitals to send attendees to these sessions too.</td>
<td></td>
</tr>
</tbody>
</table>

Month three – final checks

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Report progress to your executive sponsor</td>
<td>Progress update</td>
</tr>
<tr>
<td>Continue to give regular progress updates to your executive sponsor.</td>
<td></td>
</tr>
<tr>
<td>□ Engage with staff at every opportunity</td>
<td>Attend key formal meetings, informal meetings</td>
</tr>
<tr>
<td>Continue to engage with staff about the project and what you are doing.</td>
<td></td>
</tr>
<tr>
<td>□ Communicate your project to the organisation</td>
<td>Internal communications</td>
</tr>
<tr>
<td>Continue to share what you are doing with the wider organisation.</td>
<td></td>
</tr>
<tr>
<td>□ Participate in the cohort webinar</td>
<td>Webinar</td>
</tr>
<tr>
<td>This is an opportunity for you to share where you are up to with other leads and teams in the cohort and the national team. We’ll send you information on how to join the webinar and the agenda.</td>
<td></td>
</tr>
</tbody>
</table>
**Action** | **Output**
--- | ---
- Attend intervention training | Intervention training
  Encourage your project team, initial site teams and other willing staff to attend the intervention training. Work out how you will train remaining surgical staff on the interventions with the help of those who have attended initial intervention training sessions.
- Prepare your initial site(s) | Prepared sites
  Meet with your initial site team(s) to agree when they will start the interventions and explain how the improvement cycles will work. Work out what support they will need and who from the project team will provide this.
- Final countdown | Final checks
  Have the intervention posters up on the wall and check that the initial site teams are ready for the first improvement cycle.
**Implementation period**

How you manage your implementation will depend on the approach you have agreed to use and documented in your project plan. Splitting the implementation period into quarters (90-day cycles) or months (30-day cycles) will help you manage the work involved. This is particularly effective for managing improvement cycles and implementing the interventions across operating theatres.

We’ve identified some key actions you can incorporate into your plan.

### Key actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="work_with_the_initial_site(s)_to_make_small_steps_of_change" alt=" " /></td>
<td>![ ](Action cycles)</td>
</tr>
</tbody>
</table>

**Work with the initial site(s) to make small steps of change**

Using the improvement cycles, work with your initial site(s) to make small steps of change until they and your team feel you are ready to implement at a further site.

| ![ ](measure_for_improvement) | ![ ](Reports) |

**Measure for improvement**

Use the measures and data collection processes you identified during the preparation period to monitor your progress towards achieving your goal for the project.

We developed an app to aid the collection of data related to the engagement of teams in the interventions. This may help you measure levels of improvement.

Your results can also be used to promote the project to surgical staff not currently involved and wider staff and patients.

| ![ ](identify_the_next_site(s)_where_you_will_implement_the_intervention(s)) | ![ ](Next site) |

**Identify the next site(s) where you will implement the intervention(s)**

As you engage with staff and communicate your project to the organisation, check who would be willing to be the next site(s) to implement the intervention(s). Those who are willing are more likely to be patient with the initial improvement cycles.

Encourage staff from your initial site(s) to share their experience, particularly if their work has benefited from implementing the interventions and how challenges have been overcome.

| ![ ](work_with_the_next_site(s)_to_make_small_steps_of_change) | ![ ](Action cycles) |

**Work with the next site(s) to make small steps of change**

Prepare your next site(s) - meet with them to agree when they will start the interventions, give them training and explain how the improvement cycles will work. Identify what support they will need and who from the project team will provide this.

Using the improvement cycles, work with your next site(s) to make small steps of change until they and your team feel you are ready to implement at a further site.

Keep identifying and working with further sites until you have a final site to work with.

| ![ ](identify_the_final_site_where_you_will_implement_the_intervention(s)) | ![ ](Final site) |

**Identify the final site where you will implement the intervention(s)**

Identify the final site and encourage the staff from your earlier sites to share their experiences of working with the interventions, how challenges have been addressed and perceived benefits.
<table>
<thead>
<tr>
<th>Action</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Work with the final site to make small steps of change</td>
<td>Action cycles</td>
</tr>
<tr>
<td>Prepare final site - meet with them to agree when they will start the interventions, give them training and explain how the improvement cycles will work. Identify what support they will need and who from the project team will provide this.</td>
<td></td>
</tr>
<tr>
<td>Using improvement cycles, work with your final site(s) to make small steps of change.</td>
<td></td>
</tr>
<tr>
<td>□ Monitor how your earlier site is going</td>
<td>Regular touchpoints</td>
</tr>
<tr>
<td>Don’t forget to keep an eye on how your earlier sites are going. They will be used to working with you. Make sure you keep them engaged.</td>
<td></td>
</tr>
<tr>
<td>□ Arrange auditor train-the-trainer session</td>
<td>Date for auditor training</td>
</tr>
<tr>
<td>A member of the national team will contact you with details of the auditor training provider. The provider will arrange a suitable date for staff to attend a train-the-trainer session.</td>
<td></td>
</tr>
<tr>
<td>Your role will be to find a suitable venue, promote the training and make sure the staff you want to attend can.</td>
<td></td>
</tr>
<tr>
<td>□ Attend auditor train-the-trainer session</td>
<td>Auditor training</td>
</tr>
<tr>
<td>Encourage your project team, staff who do auditing and other willing staff to attend the auditor train-the-trainer session.</td>
<td></td>
</tr>
<tr>
<td>Work out how you will train other staff who might be involved in observational audits with the help of those who attended initial auditor training sessions.</td>
<td></td>
</tr>
<tr>
<td>□ Report on progress to your executive sponsor</td>
<td>Progress update</td>
</tr>
<tr>
<td>Continue to give regular progress updates to your executive sponsor.</td>
<td></td>
</tr>
<tr>
<td>□ Identify if you need more time to implement the intervention(s)</td>
<td>Agreement on next steps</td>
</tr>
<tr>
<td>You may not have been able to implement all interventions into all operating theatres, particularly if you are a large organisation. Work with your team and executive sponsor to agree next steps and how you will continue implementation.</td>
<td></td>
</tr>
<tr>
<td>□ Consider how new staff will be trained on using the intervention(s)</td>
<td>Sustainable training approach</td>
</tr>
<tr>
<td>As you near completion of implementation, work out how new staff will be trained on using the intervention(s).</td>
<td></td>
</tr>
<tr>
<td>□ Participate in cohort webinars</td>
<td>New staff induction</td>
</tr>
<tr>
<td>This is an opportunity for you to share how you are doing with other leads and teams in the cohort and the national team. This is the forum to look at challenges and potential solutions.</td>
<td></td>
</tr>
<tr>
<td>We’ll send you information on how to join the webinar and the agenda.</td>
<td>Webinars</td>
</tr>
<tr>
<td>□ Celebrate achievements</td>
<td>Celebrations</td>
</tr>
<tr>
<td>Take the time to celebrate what you have achieved. Recognise the efforts of team members and surgical teams to implement the interventions. Positive feedback and reinforcement combined with public recognition will help keep everyone motivated and focused.</td>
<td></td>
</tr>
</tbody>
</table>
Improving surgical teamwork and communication

Appendix A: Quality improvement approach

The Model for Improvement was developed by the Associates for Process Improvement (www.apiweb.org) and has been used in a number of quality improvement for health care organisations including the Institute for Healthcare Improvement in the USA and the former NHS Institute for Innovation for Improvement (who developed the TPOT programme) in England.

The Model for Improvement is a framework for structured improvement activity to help you achieve your goals and encourage wider adoption. It is based on three key questions used with small-scale testing. This testing uses improvement cycles that are often referred to as PDSA cycles. As part of your preparation period, you will address the three questions. During your implementation period you will use the improvement cycles to test out the interventions with the initial and subsequent teams.

Some tips for completing the cycles include the following:

- Expect the test not to work the first time.
- Starting with one patient (for the surgical safety checklist) or one list (for briefing and debriefing) and one surgical team means there is minimum delay to starting and the impact is minimal if the testing doesn’t work.
- Spread slowly. Once it works for one theatre, test with three and then five theatres. This will help you resolve issues so you have confidence for implementing in more theatres.
- Work with the willing. Find a team that wants the change to work – they will have better patience.
• Use simulation if you are concerned about the impact of the intervention – this could be a desk review and/or a walk-through with colleagues.

• Assess whether testing will have an impact on people or processes beyond the theatre. Include the relevant people in the planning and studying stages of the cycle. We recommend assessing the challenges and opportunities during the preparation period.

There are other improvement methods like Lean and Six Sigma. Use these if your organisation has a stated preference for one over another. You will then be able to access the support of those trained in these methods.

The learning session will go through the Model for Improvement in more detail. The national team has a Quality Improvement Advisor to support the cohorts. Most DHBs also have Quality Improvement Advisors you can contact for support and guidance.
## Appendix B: References


13. Ibid.

14. Ibid.


