NHS
Institute for Innovation and Improvement

The Productive Operating Theatre

Building teams for safer care™

Session Start-up

Version 1

This document is for theatre coordinators, theatre staff, theatre matrons, theatre managers, clinical directors, surgeons, anaesthetists and improvement leads

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The Productive Operating Theatre

Session Start-up

Purpose of this module

Session start-up plays a vital role in ensuring that theatres run efficiently. A high performing operating team is consistently well prepared and starts on time with a full multidisciplinary pre-session brief. This sets the standard and the momentum for safety and efficiency for the whole day. A well scheduled list that starts on time should also finish on time. All these factors will contribute to creating a high quality patient experience as well as increasing staff satisfaction.

Operating time is an expensive resource. Used effectively it can help you operate on more patients, achieve waiting list targets, and deliver good financial performance. A funded theatre standing empty can cost an organisation on average £20 per minute. Consequently each department should be working towards making the very best use of their resources – in every session available.

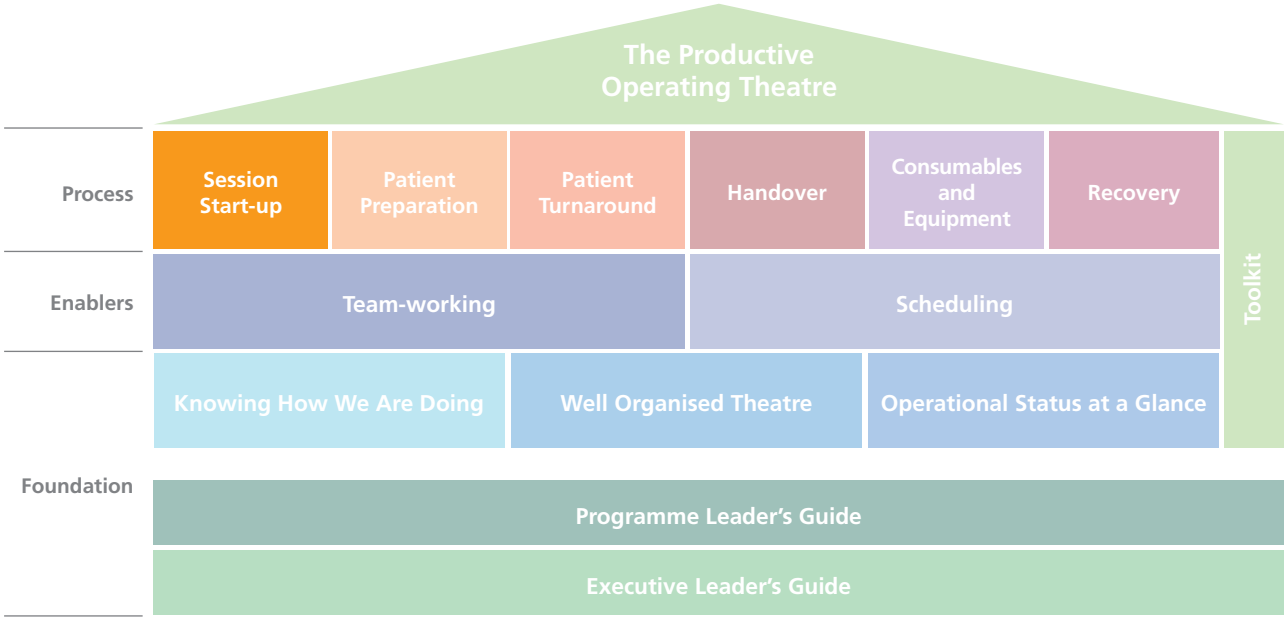
How many times have you observed a late start resulting in either an overrunning list or patient cancellation?

Session start-up relies on clear leadership and a focused multidisciplinary team that has a shared goal. This module will enable you to work towards a well prepared theatre department that is appropriately staffed, has the correct equipment available and ensures that all other resources required are present and correct. It will help you and your team to understand your processes and the issues that cause problems during the session start-up period and then develop a local standard that enhances patient safety, reliability and expect a prompt start.

'When a theatre starts on time, this sets the momentum for the whole day. Delays inevitably cause wasted time and money, as well as frustration to all those left waiting.'

Paul Johnston – clinical director for theatres and consultant anaesthetist, Heart of England NHS Foundation Trust

These modules create The Productive Operating Theatre



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1. What is the Session Start-up module?

What is it?
The Session Start-up module offers you a practical and structured approach to improving team performance during the start-up period of operating theatre sessions. This pre-session period is a time of high activity for the multidisciplinary team. It applies across several areas and teams that are based both within and external to the theatre environment.

The multidisciplinary team plays a vital and interdependent role in bringing all resources together, along with the patient, at the start of the operating session. This module aims to help you examine current practice within your organisation, and to help you decide what a good start-up process should look like and how you can make it happen.

Why do it?
An organised and effective session start-up can:

- improve the patient's experience and outcomes by reducing delays and cancellations, as well as reducing the factors that can lead to error
- increase safety and reliability during the session by improving and standardising practice.

This will enable a successful operating list that has the potential to run to time:

- reduce waste such as delays and repetition, and improve start times
- improve overall theatre efficiency and financial performance
- to prevent staff frustrations during session start-up.

What it covers
This module will help you understand your current processes for the preparation of an operating session, as well as identify issues and barriers to effective working. It will provide you with tools and ideas which will enable you to set about improving the start-up of sessions within you own theatre department.

What it does not cover
This module does not offer specific instructions on what to improve in session start-up within your own organisation. Neither will it enable you to solve problems that you identity that are beyond the scope of your department, but it will provide you with the structure to identify these to take forward in your organisation.


Session Start-up
Start-up
Act
Plan
Study
Do
Session Start-up
Will help teams identify what is required to standardise the processes and make that standard repeatable, thereby eliminating duplication and delays by ensuring each task has been actioned at the right time.
Foundation module box set
Foundation module box set DVD
The Productive Operating Theatre
Building teams for safer care
Session Start-up
Version 1
This document is for theatre coordinators, theatre teams, surgeons and anaesthetists
Team-working
The Productive Operating Theatre
Building teams for safer care
Team-working
Operational Status at a Glance
4. Collect data

Important links

All the modules within The Productive Operating Theatre link together to achieve the programme aims, some however, are more interdependent than others. Session start-up links particularly closely to:

- ***Patient Preparation***: is such an important process within session start-up, that it has its own dedicated module. It is critical to coordinate your approach to maximise the benefit of these two process modules.

- ***Team-working***: understanding the importance of, and introducing techniques to improve communication enhances multidisciplinary team working. A good session start-up relies upon a high performing team and culminates in the whole team being ready to start the session and hold the team brief. Team brief is introduced in detail within the Team-working module.

- ***Scheduling***: a good scheduling process will include the allocation of all the resources, both people and equipment, needed for each operating list. Having the correct resources available, in the right place at the right time is key to supporting a good session start-up. Session start-up is further supported by a well constructed operating list that will not require last minute changes on the day.

- ***Knowing How We Are Doing***: collecting, analysing, and reviewing your measures is vital to help you understand if the changes you are making are having an impact. Using this module will support you and your team to create a balanced set of measures that will be useful and relevant, and close to real time, so you can see the impact of the changes they make.

- ***Well Organised Theatre***: helps the team organise their workplace better to support the processes being carried out during session start-up, simplifying your workplace and reducing waste by having everything in the right place at the right time ready to go.

- ***Operational Status at a Glance***: using the combination of coordination and communication, real-time data and visual management are used to support the teams to ensure a safe reliable start up across multiple theatres.

Learning objectives

After completing this module it is expected that as a team you will:

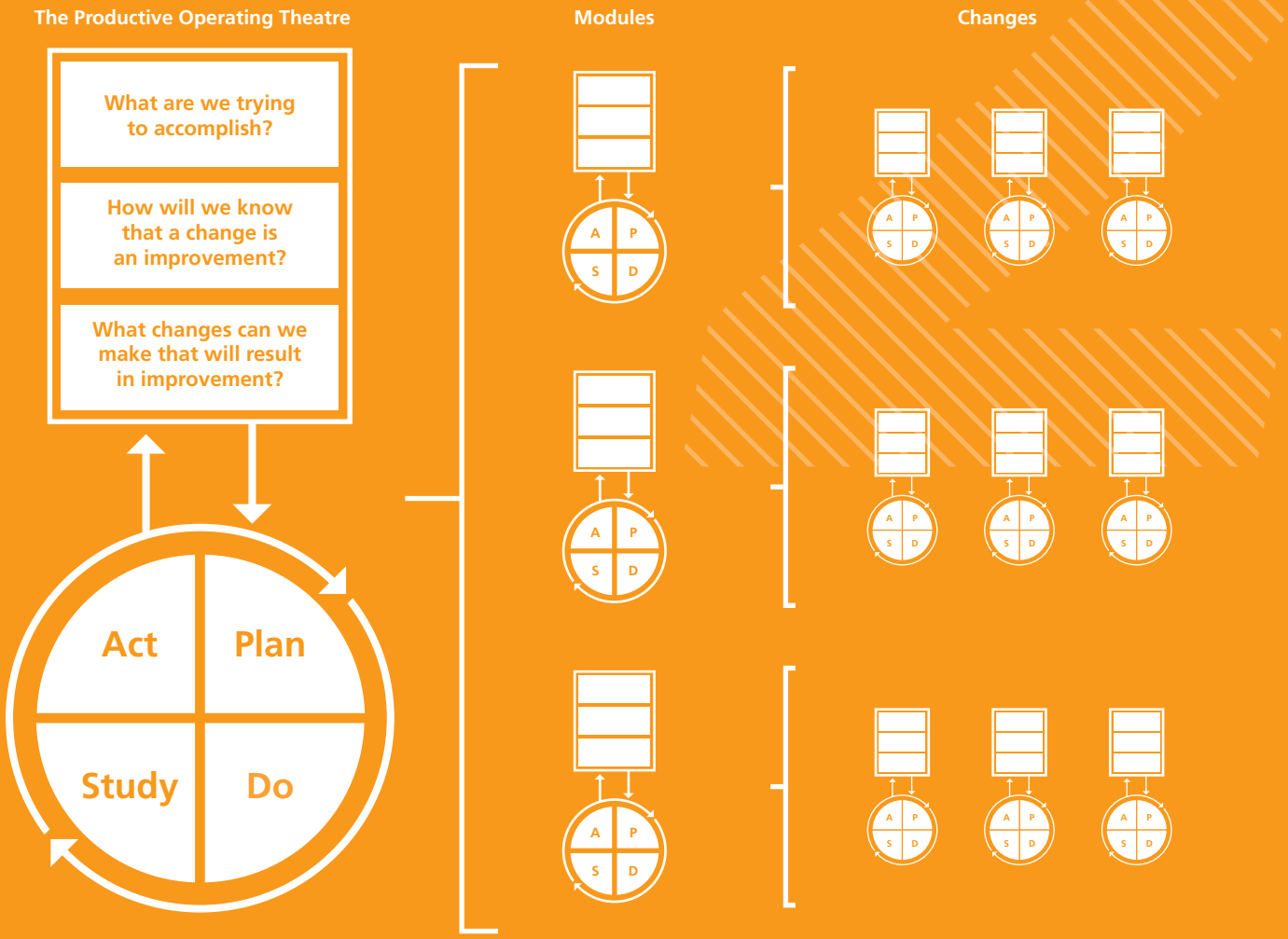
- recognise the importance of a safe, reliable and prompt start of an operating session
- appreciate and be able to articulate the financial implications of any time lost at the beginning of the session and the associated overruns
- understand the impact of late starts on patients, staff and the organisation
- understand the multiple processes and tasks involved in session start-up
- understand how they can influence a good quality session start-up
- be able to measure performance in session start-up and use this information to identify improvements
- understand the importance of standardised working processes and clear roles and responsibilities
- recognise the importance of leadership at all levels in ensuring efficient session start-up
- develop the skills to take ownership of your own start-up performance and drive the improvement work
- develop a culture of continuous improvement around safe, reliable and prompt starts to operating sessions

What tools will you need?

Tool	Toolkit section reference number
Meetings	1
Dot voting	2
Activity follow	5
Photographs	8
Video	9
Process mapping	11
Cost / benefit analysis	12
Module action planner	13
Timing processes	16
5 Why analysis	18
Glitch count	20

2. How will you do it in your theatre?

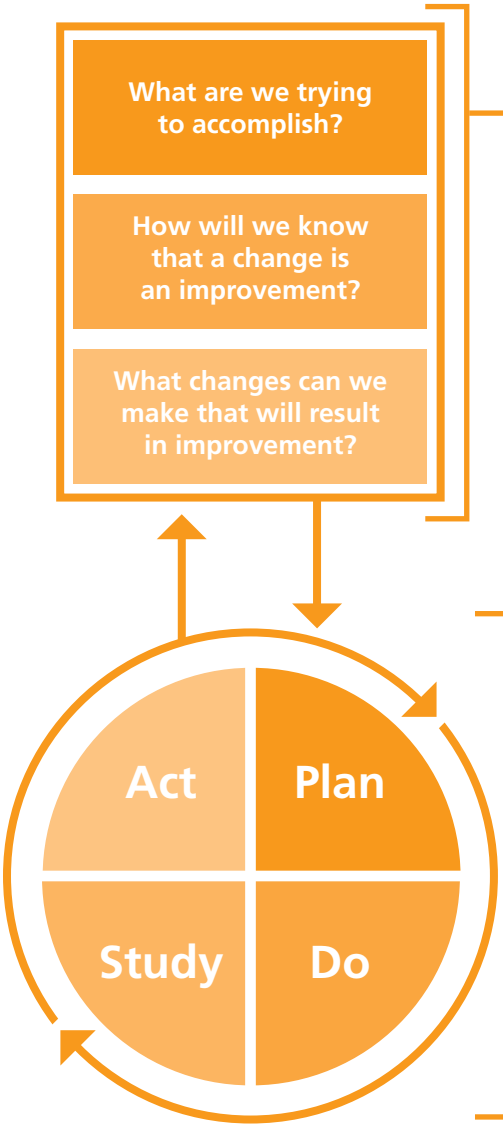
This module is structured to take you through the model for improvement[1]. Within the module you will implement many small changes, developing and testing each one through smaller cycles of the model for improvement. The cumulative impact of these changes come together to achieve the overall aims of the Session Start-up module. All the changes made within each of the modules come together to achieve the overall aims of The Productive Operating Theatre.



[1]Langley G, Nolan K, Nolan T, Norma C, Provost L. (1996)
The improvement guide: a practical approach to enhancing organizational performance.
San Francisco: Jossey-Bass

How will you do it in your theatre?

The model for improvement



The three questions

- Read the module and watch the Session Start-up DVD
- Agree and communicate a clear aim
- Identify module measures
- Identify changes that could be made

Plan

- Ensure strong and visible leadership
- Create the team
- Communicate, engage and raise awareness
- Understand your current state
  - Gather and review relevant data
  - Gather feedback from staff
  - Understand how long individual start-up activities take
  - Gather information about issues and problems
  - Map your current state
- Review ideas that have worked elsewhere

Do

- Map the future state
- Agree and prioritise potential solutions
- Create an implementation plan
- Test the changes
- Monitor progress
- Support the team through the changes

Study

- Collect, analyse and review feedback and data
- Assess the impact on your key measures
- Communicate progress

Act

- Agree whether to adopt, adapt or abandon the changes
- Celebrate and share successes
- Continue to monitor and review
- Sustain the changes
- Plan for scale-up

3. The three questions

Before you start implementing the Session Start-up module it is important that you make sure you are clear about the approach that you are going to take.

Take time to read through this module carefully, and watch the DVD in order to understand the full scope of what is involved. (The DVD is available in your box set and as an online resource at **www.institute.nhs.uk/theatres_resources**)

Work through the three questions from the model for improvement. These questions and your answers to them will provide you with a foundation upon which to base your improvements.

1. What are we trying to accomplish?

The main idea in answering this first question is to provide an aim for your improvements that will help guide you and keep your efforts focused.

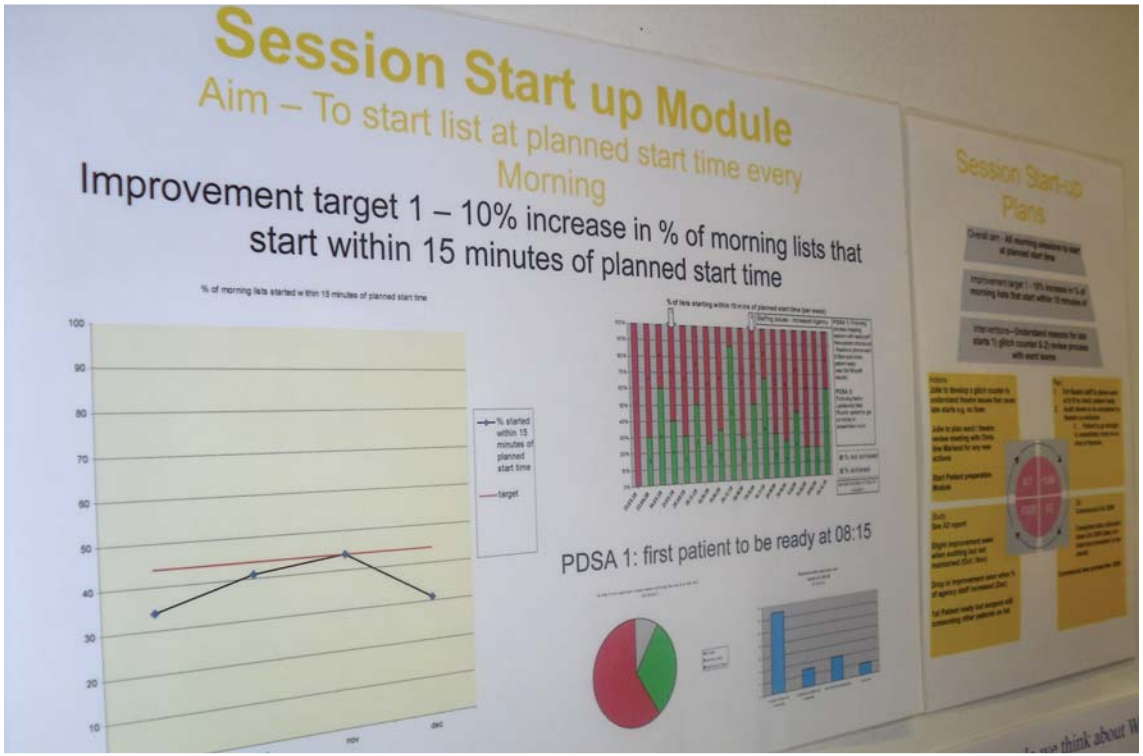
Think about how the Session Start-up module will contribute to achieving both your local vision for The Productive Operating Theatre and the overarching aims of the programme to improve:

- patient's experience and outcomes
- safety and reliability of care
- team performance and staff wellbeing
- value and efficiency.

As a team set an aim for what you want to achieve from this module according to **SMART** principles.

Principles for setting a **SMART** aim:	
Simple	give the aim a clear definition (eg 'start sessions on time')
Measurable	ensure that data is available
Aspirational	set the aim high to provide a challenge to the team but ensure that it is achievable
Realistic	take into consideration factors beyond your control which may limit your impact
Time bound	set a deadline

Once agreed as a team, communicate the module aim(s) on your Productive Operating Theatre notice boards, showing clearly how the aims of this module link to your vision.



2. How will we know that a change is an improvement?

This second question builds on the work you have done in the Knowing How We Are Doing module. It is about monitoring and measuring the impact of the changes you make. If you make a change and your measures start improving at around the same time, it is likely that the change led to an improvement.

Measuring the impact of the changes you are making is really important to enhance your team's learning. It allows you to quantify the improvements you have made, which will generate further enthusiasm and support for the programme. It also enables you to identify changes you have made that have not had the desired effect, highlighting where you need to modify your approach.

As part of Knowing How We Are Doing, you will have agreed a balanced set of measures across the four programme aims. How will your improvements from the Session Start-up module be represented in this set of measures? If the changes you decide to make are not reflected in your original set of measures, you may need to include additional measures that will capture the impact of this module. The suggested measures sheet in Knowing How We Are Doing and the suggestions on the following page will give you some idea of how to do this.

Module measures session

To explore this further run a Session Start-up measures session with the team that is going to be involved with this module. A suggested set of slides for this session is available at www.institute.nhs.uk/theatres_resources

The aims of this session are to:

- refresh the team's understanding of how to use measurement to drive improvement
- understand how the Session Start-up module fits into your agreed balanced set of measures
- identify measures for the module
- decide how to collect, analyse and review the information – making this as 'real time' as possible in order to make it more meaningful for the team
- complete a measures checklist for the module.

It is really important to agree your definitions, eg commencement of anaesthetic. Use the measures checklist to help you www.institute.nhs.uk/theatres_resources

Once your measures are agreed, start collecting, analysing and reviewing your data. Remember to share the progress on your Knowing How We Are Doing board.

Example measures

Here are some ideas of measures for Session Start-up. Some of these you may already be collecting – your choice may be influenced by specific issues within your own area.

- Number of minutes that each session starts late plus the reasons why
- Number of minutes that each session finishes late plus the reasons why
- Start time of all sessions by theatre
- Start time of each theatre by week
- Start times by individual session
- Start time of sessions across all theatres by week
- Reasons for late starts and the incidence of these – a Pareto diagram can be useful. For information on using Pareto charts see **www.institute.nhs.uk/qualitytools**
- Number of glitches encountered, eg incorrect or unavailable equipment
- Financial costs of lost session time at start-up
- Percentage of sessions that achieved a multidisciplinary pre-session briefing.

Remember – keep it simple. Choose one or two key measures at first – too many measures will be difficult to manage.

For more examples of measures see Knowing How We Are Doing – Appendix 2.
For more examples of how to present session start-up data see Measures supplement
www.institute.nhs.uk/theatres_resources

'The session start-up is an essential achievement in terms of patient safety and theatre team efficiency.'

Jean Yves Bigeon – consultant anaesthetist,
Central Manchester University Hospitals NHS Foundation Trust

3. What changes can we make that will result in an improvement?

Having read the module and agreed on a clear aim, you will be starting to use your data and initial feedback to identify the problems and issues that you have in session start-up. You will begin to identify changes that you could make within your department that may result in improving your performance.

You will have an overall idea of what you want to achieve from this module. However, the detail of what you can achieve and how you achieve it will become clear through your diagnostic work, such as your data collection, analysis, feedback and process mapping.

Throughout the module you will find a number of examples of ideas that have been implemented in other sites. However, the changes you implement as a result of working through this module will depend on your own organisation's current state and the constraints you are working with, both physical and cultural.

Involving your team, developing meaningful data and generating enthusiasm will be the key to your success.

Examples of changes that have been successful at other sites:

- raising awareness across teams of the aims and rationale for a prompt, safe and reliable start
- quantifying the cost per minute of funded but unused theatre time, per individual theatre, and sharing this information with the team
- ensuring that clear definitions of session times are available and understood by the multidisciplinary team
- advance planning for the day
- standardised working to ensure consistent start-up by the different groups of staff
- process mapping of the timelines of different pathways leading to the start-up of theatres and working on key interdependent times
- development of real-time data for teams to understand their own performance and plan improvements
- clearly defining roles, responsibilities and the active leadership required
- problem solving and simple root cause analysis of reasons for delays to fully understand individual problems
- senior leadership actively monitoring and supporting performance.

The three questions – milestone checklist

Move on to **Plan** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Read the Session Start-up module and watched the DVD	
Agreed and communicated a clear aim for the module	
Held a module measures session	
Have identified module measures using Knowing How We Are Doing	
Thought about and discussed what changes you will make	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

4. Plan

There are a number of steps to work through to help you plan tests of change using Plan Do Study Act (PDSA) cycles for implementing the Session Start-up module.

Ensure strong and visible leadership

A safe and reliable session start-up is critical to a high performing operating department. Strong interest and support from senior clinical and managerial leaders will help the team to understand the importance of implementing this module. This will also ensure sustainability.

- Discuss implementation with the senior operational and clinical leaders to ensure their support and visibility for this area of work.
- Discuss how you will implement the module and identify the support you may need.
- Discuss how the executive leader will support this work.
- Decide whether you will need external support from the NHS Institute for Innovation and Improvement.

Tip: *Are your theatre leaders articulating the need to improve your department's start times and leading the drive to achieve this? Theatre teams are responsible for starting on time; senior staff are accountable for ensuring value and efficiency and should be leading the team and articulating their expectation.*

Enablers for a successful Session Start-up module:

- are your key senior team such as clinical director, directorate manager and matron engaged and supportive? For example, your clinical directors will be key to helping and influencing clinicians to find solutions for the issues that prevent them from being able to complete their pre-session rounds and arrive in theatre on time for the multidisciplinary team briefing.

- have your senior theatre practitioners, coordinators and team leaders understood the importance of starting sessions on time? Are they driving this and working with their teams to find 'real time' solutions?

Create the team

The programme team should understand the importance of involving all groups of staff in implementing the changes tested in PDSA cycles as well as evaluating the results.

You will need to identify a team to take this module forward. This should include a champion / champions who will have the vision and ability to take session start-up forward with the support of the programme leader and service improvement expert. This module will involve several disciplines and will link into the Patient Preparation, Scheduling and Operational Status at a Glance modules, as well as any work your organisation may be doing on The Productive Ward.

Consider involving your:

- surgeons
- anaesthetists
- theatre manager and matron
- theatre coordinator and team leaders
- improvement leader
- as many of the theatre team as possible – mixed grades and disciplines
- relevant stakeholders such as ward, clerical and portering staff as appropriate to your own structure.

The team should meet regularly (see Toolkit, tool no.1 Meetings), these meetings will provide a good opportunity to review progress and data.

Communicate, engage and raise awareness

As part of the start-up phase for implementing the Session Start-up module, it is important that the clinical team in the test area understand what session start-up is, why it is important and what benefits it will deliver. You can never communicate too much, so use several of the suggestions listed below to ensure your team are fully informed and ready to go.

- Meetings.
- One-to-one discussions.
- Posters, newsletters and theatre message book.
- Information on your Knowing How You Are Doing board including measures and quotes from staff and patients.
- Email.

Clinical engagement

Crucial to this module is clinical engagement. We know from visioning sessions and from data gathered during testing, that clinicians arriving late into theatre is an issue in many organisations that prevents a prompt session start-up. There are many reasons why this may be the case and it is often beyond their immediate control.

This module provides the tools to understand the many processes involved in the session start-up period and address the issues that prevent clinicians arriving in theatre on time and starting promptly.

In addition to the clinicians in the project team, recruit surgical and anaesthetic champions who you can work with to understand what causes the delays and how the issues can be addressed, and also influence their colleagues.

'Engaging consultant colleagues is probably best done by consultant colleagues. The simple act of sitting down over a coffee and explaining what we are trying to do won over a number of unexpected allies.'

James Clarke – consultant anaesthetist, Elective Orthopaedic Centre

Understand your current state

To be able to progress with any improvement, you need to understand the 'current state' of the areas that you are working on. This involves examining all aspects of the current situation and gathering information from a variety of sources.

The level and focus of your activity within this module will depend upon your current performance and the particular issues that you are experiencing with your session start-ups.

A safe, reliable and prompt session start-up relies on three high level processes that run concurrently, they are:

- patient admission and preparation
- surgeon and anaesthetist pre-operative review of patients
- theatre set-up.

The completion of these processes mark the end of session start-up and the beginning of the operating session. Each operating session will begin with a full multidisciplinary team briefing.

Each of the three high level processes can be broken down into a number of lower level processes and tasks, such as the surgeon or anaesthetist visiting wards to review patients, complete the consenting process and operative site marking. It is important to take all of these into consideration and understand the relationship between them as you develop your understanding of your current state and begin to plan your improvements. This will help you identify the root cause of delays.

Patient preparation is an important process that it is covered in detail within its own Productive Operating Theatre process module, Patient Preparation.

A process that takes longer than the time available is likely to cause late starts and can also lead to short cuts, potential errors and frustrations for patients and staff.

Gather and review relevant data

As part of the second question, 'How will we know that a change is an improvement?', you will have re-visited the Knowing How We Are Doing module and agreed your measures for Session Start-up. You now need to start gathering and reviewing the relevant data.

Ensure that you:

- gather your baseline data to support the measures that you have identified
- review all of the data in order to be able to understand your current state
- look at data specifically concerning your current session start times performance:
  - are your theatres performing well in this area?
  - do you actually have a problem?

What other data have you collected and what does it show? You may decide at this point to collect additional information.

- If late starts are a problem, it will be helpful to collect the reasons for the late starts and to prioritise the main areas for improvement – a simple Pareto chart is useful to visually display this data, see the example on page 43. For more information on using Pareto charts see www.institute.nhs.uk/qualitytools
- It may also be helpful to capture data on glitches (issues and problems) that affect start-up so that you can see what the common problems are in specific clinical areas (see Toolkit, tool no.20 Glitch count).
- How do you currently share this information as a team and can this be improved?
- For guidance about how to analyse and present your data see Measures supplement www.institute.nhs.uk/theatres_resources

Tip: *Do you have easy access to the necessary data? If not, engage your IT / information team as early as possible to help you produce reports that can provide you with user friendly information in a timely way, that makes it meaningful to individuals. Teams will be able to respond better to 'real time' information.*

A really collaborative relationship with your IT and information departments can take some time to develop. The importance of investing time and effort into building this relationship should not be underestimated.

Make sure you have good quality data

Data quality is critical to accurate reporting and this may require a high level of attention within this module. Missing data can significantly affect your recorded start times and run charts.

Make sure all of the members in your team realise the importance of the data that they collect.

It helps to share some anonymous examples of the impact of poor data collection with the team. The quality of start time data can be particularly poor due to the reliance on theatre staff entering information during a busy step in the patient pathway. You may need to work with the team to feedback and raise awareness of the importance of the accuracy of data in reflecting session start-up.

Example: how a test site worked with the team to improve compliance start time data collection

Times missing

☺= 100% entry 1=1 entry missing

	Th.1	Th.2	Th.3	Th.4	Th.5	Th.6	Th.7	Th.8
27.04.09	☺	2	2	☺	☺	1	☺	3
05.05.09	☺	☺	2	1	1	☺	1	1
11.05.09	☺	☺	☺	☺	☺	☺	☺	☺
12.05.09	2	☺	☺	☺	2	☺	☺	☺
13.05.09	1	☺	☺	☺	☺	☺	1	1
18.05.09	☺	☺	☺	☺	☺	1	1	☺
19.05.09	☺	☺	☺	☺	2	☺	1	☺
☺ 20.05.09	☺	☺	☺	☺	☺	☺	☺	☺
05.06.09	☺	5	3	☺	☺	☺	☺	☺

An example of a simple way to display the quality of data input of start times by theatre teams into the theatre management system. Over a number of weeks the quality increased. However, this should continue to be monitored and focused on again if compliance starts to dip.

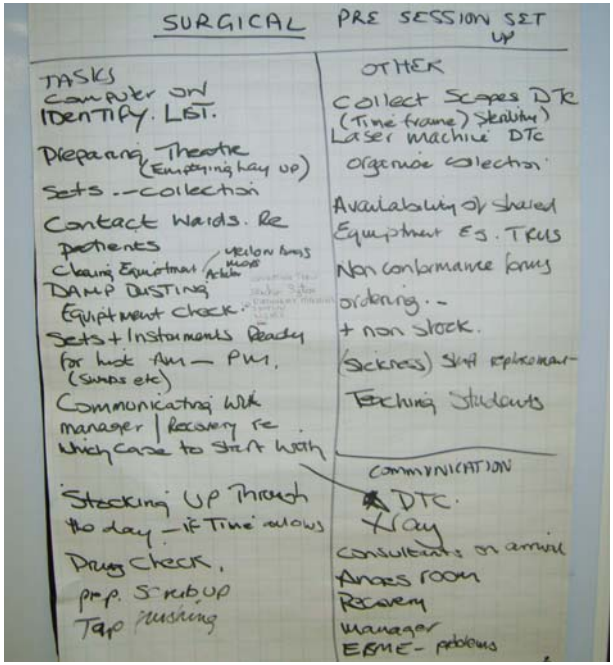
Gather feedback from staff

In order to fully understand your current way of working you will need to obtain good quality feedback from the full multidisciplinary team. You can start this through group sessions and one-to-one discussions.

It can be difficult to get teams together in busy theatre departments so you may need to explore other ways of gaining feedback and be creative!

Remember to record the feedback.

Tip: *Flip charts are useful as they can be put up in the department and comments can be added by teams who were not able to participate in the session. This can be a good way of gaining the views of a broad group of staff, particularly surgeons and anaesthetists who often find it difficult to get together to attend group sessions.*



Example: areas to explore with your teams

What does session start-up actually mean to the team?
What is the general feeling about session start-up within your department?
What is your understanding of the session time definitions?
Discuss as a team the importance of a prompt and efficient start to the session
What is the potential cost and impact of a theatre standing empty, and the implications of an over-run due to a late start?
As a team identify the impact that delays and potential cancellation can have on patients and the rest of the organisation?
From their experience, what issues affect session start-up on a day by day basis? List these issues as well as their impact.
Do they feel part of a team that has a shared goal and supports each other to achieve what is required?
How are problems escalated and managed? Are the team active in finding solutions for themselves? For example, if there is no orderly available to collect the patient do they actively find a solution or simply wait for an orderly to become available?
Do teams have any kind of performance data that is currently fed back to them? If so, what are they and what do they do with it?
What are the processes and tasks that need to be completed during the set-up period? Which processes are carried out to a defined standard and which are open to individual routine? List the types of processes and tasks that fall within them.

Tip: *It is useful to run small breakout groups around a flipchart to discuss and record the different setup processes eg recovery, surgery and anaesthetic setup. Gather consensus on this and make decisions on content and priorities. Dot voting (Toolkit, tool no.2) may be of use during this activity.*


ISSUE - Staff related
Centralisation of Stock
Lack of Supervised Medical Staff
pre and post op
imaging staff
levels - centralisation of stock

Gather wider feedback

It is not always possible to get together as a group so you may need to look at alternative ways to gain feedback. Surveys can be a good way to capture issues and perceptions.

On the following page is an example of a letter that was sent out by a test site to surgeons and anaesthetists. The purpose of the letter was to introduce the module and gain their perceptions and feedback on the issues that affect their ability to start operating sessions on time. The letter also clearly defines the session times as well as the intention to start lists on time. This was successful in gaining useful feedback from busy senior clinicians and can be locally adjusted for your own use.

'Starting the list on time makes an immense difference to the organisation of the whole list ahead.'

Anthony R B Smith – consultant gynaecologist,
Central Manchester University Hospitals NHS Foundation Trust

Dear .....

You will be aware that we are currently implementing The Productive Operating Theatre programme within our theatres. One of the modules that we are currently working on is 'Session Start-up'. This module will focus on ensuring that all lists are able to start on time in a safe and reliable way. Our current local definition for the start of a session is commencement of anaesthetic at 0900hrs for an AM list and 1400hrs for a PM list.

We are currently late in starting a significant number of lists for a variety of reasons - some internal to theatres and others that extend beyond the control of the operating department. We recognise that, as a clinician, your time is precious and that it is important for you to start on time as well as finish on time. The data shows that a significant number of late finishes can be prevented by starting on time.

Our focus within the Session Start-up module will be to:

- *ensure that everyone is aware of local session time definitions and the expectation that all sessions should start promptly unless by previous arrangement*
- *measure start times daily and discuss with the teams to help understand what prevented the session starting on time*
- *code all late starts to identify and quantify the main causes*
- *identify the critical barriers to starting on time*
- *work as a team to address these*
- *feed back to the Trust on any issues that are beyond the control of theatres in order to gain support and action*
- *identify roles and responsibilities within the team*
- *to ensure sufficient resources and structure to the planning and preparation on the day of surgery and before*
- *introduce pre-session briefings as part of the Team-working module.*

It would be very helpful if you would take a few minutes to reflect on your own sessions and to provide a brief outline of what factors you feel may be preventing you from being able to start operating on time. It will also be very helpful if you would include constructive suggestions.

A simple form has been attached that can either be filled in electronically and sent back via email, or printed off and posted back to the programme lead (details at the bottom of the form).

It is important to us that this work takes into account the opinions and feedback of all colleagues within the teams. Our aim is to work collaboratively, to provide a framework that allows professionals to work in an organised and structured environment, which will enable the delivery of quality care to patients. This is not only focused on start times and productivity, so please do join us in this endeavour. Please also feel free to discuss your thoughts with either the module lead or ……

Yours
The Productive Operating Theatre Team

Example: form to accompany letter

Session Start-up module – barriers to starting sessions on time (clinicians)

Issues affecting ability to start lists on time	***Details***	***Ideas / proposals***
Theatre related issues		
Hospital related, but external to theatres		
Personal ie, other commitments, contractual issues etc		
Other		

Record processes and activities through photographs and filming

It may be helpful to take photographs (Toolkit, tool no. 8) and video (Toolkit, tool no. 9) of the start-up processes. For example, you may wish to follow and record the processes involved in theatre set-up:

- theatre team
- anaesthetic team
- surgical team
- recovery

Video can be particularly helpful if there appears to be variation in practice. This can then be reviewed with the team when implementing standard operating procedures.

When asking two anaesthetic assistants how long it takes to prepare similar theatres in the morning, one replied 30 minutes and another 45 minutes. What do these two professionals do that is different?

It can be difficult to plan for high quality and cost efficient care when there is significant variance in practice.

This may be an example of where the use of video capture or activity follows can be useful in understanding the variation.

Identify waste

Review the photographs / video with members of the team; ask them to highlight key tasks and responsibilities that are crucial to a safe and reliable set-up. What is the most logical way to accomplish the task?

Also ask them to note any issues, delays or opportunities to reduce waste that they can identify.

The seven wastes

1. **Defects and rework** – due to faulty processes, repeating things because correct information was not provided in the first place
2. **Motion** – unnecessary people movement, travel, walking and searching. Things not within reach, things that are not easily accessible
3. **Overproduction** – producing more than what is needed or earlier than needed by the next process
4. **Transportation** – moving materials unnecessarily
5. **Waiting** – staff unable to do their work because they are waiting for something such as people, equipment or information
6. **Inventory** – too much stock, work in progress or patients waiting in a queue
7. **Over-processing** – performing unnecessary steps that do not add value

Understand how long individual start-up activities take

Understand how long each process and task takes – do this by using Timing processes (Toolkit, tool no.16):

- capture the time taken to carry out a process on a number of occasions
- compare the times to understand variation in practice and time taken
- bear in mind that the same process may vary based on the speciality, the case mix or the number of patients on the list.

Where there is significant variation, issues or differences in perception amongst staff about a process, analyse it further by completing a detailed Activity follow (Toolkit, tool no.5).

- Review the activity follows and see how much 'waste' can be identified, eg how many interruptions there are, or how much time was required to search for stock and equipment, can these be reduced?

Tip: *You may find that some processes within session start-up do not have an impact on the start time. However, they can be improved and standardised to provide greater reliability, a reduction in errors and a reduction in frustration for patients and staff.*

Gather information about issues, problems and reasons for delay

With your team identify recurring issues, problems or delays that prevent them from doing their job efficiently and effectively. This will provide you with a base line and help you identify the priorities for improvements. This can be re-audited after changes have been implemented to allow you to demonstrate any improvement.

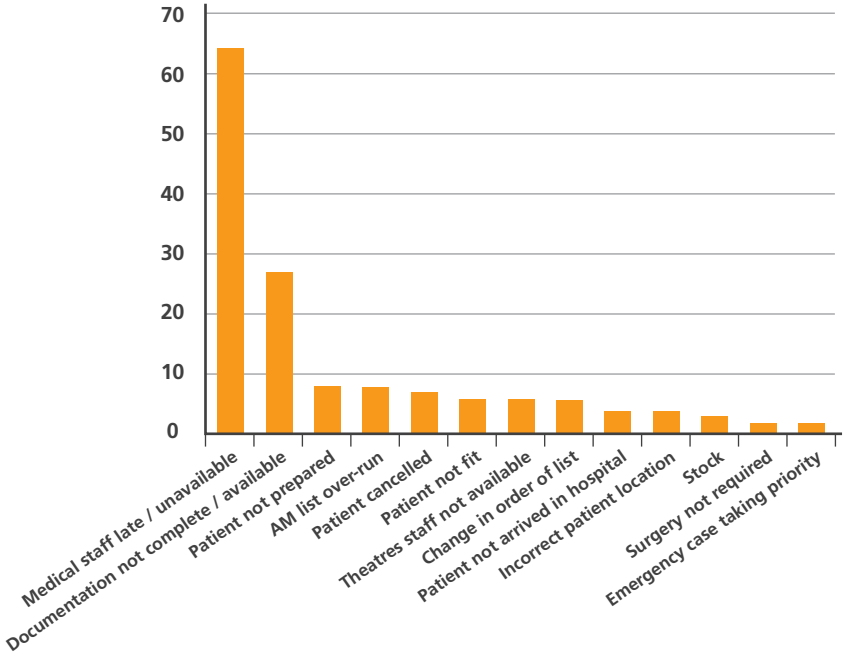
- Collect glitches (issues that cause delays and problems) for a period of time, initially over one month. Collect them on a daily basis possibly as part of a debrief. You can present this information in a Pareto chart to identify the most common causes. See the Toolkit, tool no.20 Glitch count. For more information on using Pareto charts see www.institute.nhs.uk/qualitytools
- Collect reasons for late starts.
- Review incident data to see if there are any trends relating to session start-up.

Pareto chart

A simple but effective way to demonstrate the reasons for late starts. This allows the team to focus on the key issues by examining the root causes for the most significant problems.

For information on using Pareto charts see www.institute.nhs.uk/qualitytools

Example: Pareto chart illustrating the most common reasons for late starts



Map your current state

Gathering all of the data and information that you have collected together so far will provide you with a well rounded view of your current session start-up process. By analysing all this information together as a team, you will begin to identify:

- areas of good practice and successes that can be shared and spread throughout your service
- issues and barriers that are preventing the team from consistently achieving a good session start-up
- initial ideas for changes that could result in an improvement.

Putting effort into gathering information at this point will result in a richer perspective on the challenges facing the whole team during this very busy period of the day.

This will provide you with the information you and your team require to set about creating your desired future state.

It will also help you to understand why some sessions have no difficulty in starting on time regularly, while others are nearly always late – or how some areas tend to have problems that could have been anticipated and sorted prior to the start of the list.

'It is so easy for us as teams and individuals to feel threatened by improvement work and to feel that this diagnostic stage is all about being watched and questioned by others, whose aim is to find fault with what we are doing.

It is crucial to point out to our teams that by getting involved, we are putting ourselves, as a department, in control. The diagnostic data collection helps us to recognise really good practice in our areas and also provides us with the opportunity to improve on aspects that are not working so well for us as a team - for whatever reason. It is not about finding fault with individuals.'

Ann Abbassi – programme lead and lead nurse theatres and day surgery,
Heart of England NHS Foundation Trust

As described earlier there are several broad concurrent processes and pathways that make up the preparation for the start-up of operating sessions:

- patient admission and preparation
- surgeon and anaesthetist pre-operative review of patients
- theatre set-up.

Get your teams together

To map your current state:

- get everybody involved in session start-up together
- if this is not possible hold a number of small group sessions for each of the different processes
- include representatives from the relevant areas involved in each process.

Map out these processes in parallel to understanding the timelines and any key timings that run across these processes using Process mapping (Toolkit, tool no.11). It is important to include all the results of the analysis, timings and issues on your map.

Review ideas that have worked elsewhere

Through this module you will work to develop your own ideas to achieve a safe, reliable and efficient session start-up that is specific to your teams and your organisation. Reviewing examples of what has worked well in other sites will help prompt ideas about what could work in your organisation.

Example 1: clarifying roles and responsibilities during session start-up

The importance of leadership and clear roles and responsibilities should not be underestimated in the operational drive to get theatres up and running at the beginning of the day. Individual members of the team need to be very clear of expectations and understand their role in building, leading and managing high performing teams. Often, in reality, there can be a lack of clear definition that leaves crucial issues open to assumption. It is useful to document some of the organisational responsibilities in order to provide clarity and accountability.

The Responsibility chart (for more information on the Responsibility charting tool see www.institute.nhs.uk/qualitytools) helps to clarify roles and responsibilities. It also helps to highlight a range of issues, including gaps in responsibility, misunderstanding, miscommunication and areas where either no-one or too many people carry responsibility for the same thing, resulting in unreliable performance.

The example shown here demonstrates how to examine and identify responsibilities for the session start-up period whilst working toward their desired future state. The chart helps to reinforce existing operational policies such as staffing policies, by explicitly identifying key timings and areas of responsibility.

During the data gathering work undertaken to understand the current state, the team identified that there were a number of issues that were affecting their ability to provide the most effective start-up. These included:

- general lack of awareness of the importance of a prompt, reliable and safe start-up
- session start-up not being seen as a key priority in the morning
- theatre lists not being monitored in advance and planned for prior to the day by all theatre teams
- sub-optimal communication between multidisciplinary teams to plan for and get lists up and running reliably and safely
- staff off duty not being available sufficiently well in advance and daily staff allocation not completed and available.

The Responsibility chart was used to identify key issues and tasks that required attention and communication, as well as individual responsible for these.

Example: roles and responsibilities charts

Session Start-up roles and responsibilities (trial version 1)

Prior to the day of surgery – roles and responsibilities (trial version 1)

Responsible individual →	Theatre sister / team leader or deputy	Floor coordinator of the day	Team manager
Core responsibility and accountability →	• Safe and efficient set-up of theatre • Commencement of anaesthetic at 0900hrs	Safe and efficient operational start-up of the department - all theatres starting on time	Own team's ongoing start-up performance
Activity / issue ↓			• Off duty completed four to six weeks in advance • Staff allocation rota completed four weeks ahead - one week available to staff
Planning – prior to the day of surgery	• Monitor lists in advance • Discuss next planned list with surgeons and anaesthetists at debriefing • Brief relevant team manager weekly to confirm content of lists and any issues		• Discussion with team leaders to identify solutions and plans
			• One week ahead - team managers formally review and agree the content/order of lists for their theatres • Discuss individual issues with surgeons or directorate managers • Escalate any issues that cannot be resolved (via theatre management route
Planning – previous day	• Final check of list and resources • Escalate issues as necessary	• Check all lists, rotas and arrangements for next day • Identify potential issues and ensure that these are resolved or planned for • Document plans for next day on daily planning sheet • Escalate serious problems	• Work with team leaders and coordinator to ensure that all is in place for smooth running of next day's lists

Day of surgery – roles and responsibilities (trial version 1)			
	Team leaders or deputy	**Floor coordinator of the day**	**Team manager**
Staffing	• On arrival check allocation of staff to own area • Report any deficit to coordinator ASAP	Based at operational board • Direct staffing adjustments and other operational issues due to change in circumstances	• Supervise own areas
Theatre lists	• Collect / print lists		
Set-up of own clinical areas	Responsible for supervision of set-up of own area. Check following. • Confirmation of safety checks in own areas • Confirmation of availability of equipment and stock • Confirm location and status of first patient	• Management by exception. Teams will escalate problems.	
Patients		• Liaise with site practitioners regarding allocation of beds. • Ensure that bed allocation is documented on Operational Status at a Glance (OSAG) board and teams informed	
Sending for patients	• Agree plan for sending for first patient – including means of transport to ensure prompt start • Escalate by 0845hrs if any predictable reason for delay	• Walk the floor at 0830hrs to ensure that preparation is going to plan and that 'send for' arrangements are in place • Coordinate orderly activity if conflict of resources is likely	
Surgeons and anaesthetists	• Confirm with medical staff their ability to arrive in theatre in time for prompt start • Escalate problems to coordinator	• Management by exception. Teams will escalate problems.	
Start on time	• Anaesthesia or local anaesthetic commenced by 0900hrs • Notify coordinator of any delays and reason(s) for this	• 0900hrs – walk the floor to check all lists are starting • Assess the risk to afternoon lists in the event of late starts • Feedback to team manager any issues to address	• Monitor start times for own clinical areas

Example 2: standardised practice and standard operating procedures (SOP)

Within a safety critical environment such as the operating theatre, the use of standardised working can help to increase safety and reliability as well as improve operational performance.

The purpose of standard operating procedures is to ensure that all the team carry out the process in the same way to the same level. This is key to standardising work as well as aiding the training of learners and new starters. A standard operating procedure should be agreed by the team as the safest, highest quality and most effective way of completing a task or procedure.

If the task is not too complex, then break the process down into individual steps:

- assess each step and ask the question whether it should be done during start-up or could wait until a more appropriate time
- identify any variation and waste, and remove where appropriate
- the steps that remain should be the agreed steps for that session start-up
- arrange them in an order that provides a logical flow for the work and feels right for the team
- this will form the basis of a standard operating procedure for anaesthetic set-up.

Through using video, activity follow and observation it became obvious to the Heart of England team that there was variation in the way theatre staff were setting up the anaesthetic areas for a session. The effect of this was:

- variability in the quality of set-up
- some important tasks were being missed on occasions by a minority of staff
- some unnecessary tasks were taking time during a period of high activity that could be dealt with later in the day
- students were not being trained to a standard procedure due to variation in practice of the trainers
- anaesthetists experiencing variable standards of set-up and having preferences over who they wished to work with.

This situation arose from practitioners being trained and working at different organisations, with varying practice. This was also compounded by the lack of an explicit local standard. As a consequence this raised a potential risk of clinical error and variable quality of care, as well as having an impact on the effectiveness of start-up.

In the example below, the anaesthetic theatre team worked on identifying their key tasks during the set-up period. The anaesthetic team leader then worked with the team to produce standard guidelines for pre-session start-up.

The standard is not intended as a tick list, but can be used as such if learners and new starters wish until they gain confidence.

Example: guidelines developed at a test site

Standard guideline for pre-session anaesthetic start-up (trial version 1)

	Task	
	Obtain theatre list for operating session	
	Collect and sign for keys	
	Check anaesthetic machines x 2	
	Sign machine check books	
	Start daily check lists	
	Check / stock intubation trolley	
	Clean surfaces and equipment	
	Set out appropriate drugs for list	
	Set-up drip / ranger / coil for first patient	
	Ensure all stock / equipment is available for the list	
	Check / stock specialist trolley	
	Check fridge drugs and record temperature	
	Order CDs (as early as possible)	
	Ensure specific anaesthetic / patients' requirements are available	
	Ensure Galaxy is up and running	
	Start to stock up (anaesthetic room should be appropriately stocked at the end of the day)	
	Liaise with team leader and multidisciplinary team re:list send time	
	Address any staffing / skills issues	
	Pre-session briefing (confirm safety check list: 'anaesthetic safety check list correct')	

The safety check standard operating procedure (SOP) is the equivalent of a 'cock pit check' and is intended to aid pre-session briefing by providing a concise verbal assurance that essential safety checks have been carried out to a defined standard prior to commencement of the list.

Example: standard operating procedure

Anaesthetic safety checks standard operating procedure (trial version 1)

Anaesthetic safety checks - to be confirmed verbally as correct during pre-session briefing		
Anaesthetic machine anaesthetic room	National standard check list (AAGBI)	Checked by ODP and anaesthetist
Anaesthetic machine theatre	National standard check list (AAGBI)	Checked by ODP and anaesthetist
Controlled drugs	As per trust checklist	ODP and RN
General drugs	All required available	ODP
Emergency intubating fibrescope	Clean, checked and available	ODP emergency theatre
Emergency box in date	Present and correct	ODP

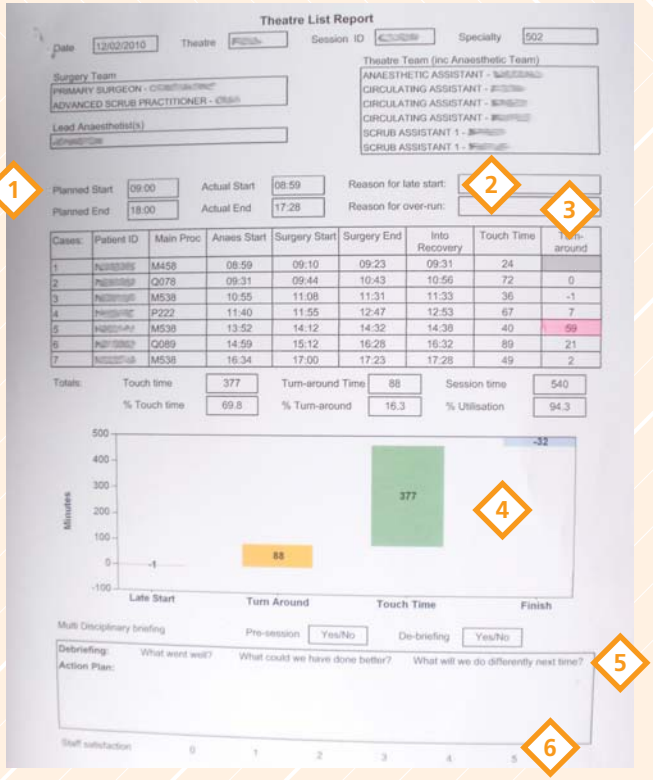

AV900
Penlon
Prima SP

Example 3: putting teams in control by using data to understand their own performance

We know from the Knowing How We Are Doing module that it is important to provide your teams with information that will put them in control of their own performance. Too often staff who deliver front line care do not have access to performance data. If they do, it is often more than a month later – by which time it is of limited benefit.

The Heart of England team made data available by session to individual theatre teams each week, so that they could monitor their performance and identify key reasons for late starts. Team leaders (theatre sisters) and their line managers were encouraged to meet for a short period each week to review the reports and discuss any issues. This created the opportunity for a weekly 'debrief' and an action plan to be agreed for the week ahead.

Below are examples of the information available to each team.

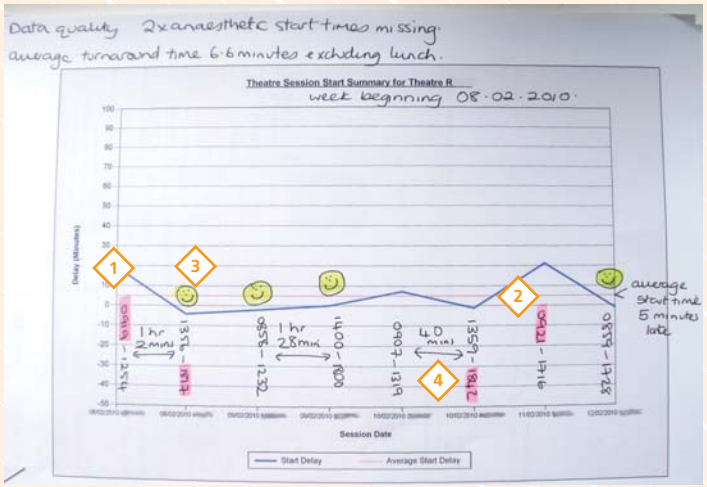


Session report

This real time information is available:

- to print in theatre after each session
- on the OSAG board
- on the intranet
- in weekly data packs for teams

1. Planned and actual start and finish times
2. Reasons for any late starts
3. Turnaround and touch time for each case
4. Waterfall diagram, visually presenting categories of time used within session
5. Space to capture actions from debriefing
6. Opportunity to capture multidisciplinary team satisfaction score



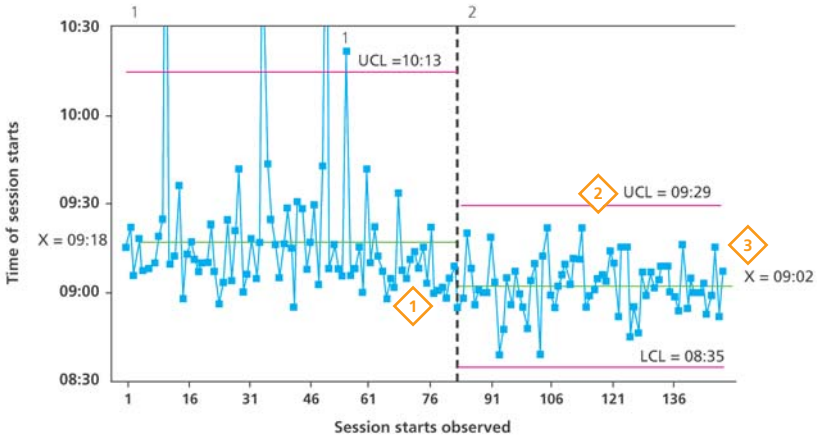
Weekly run chart of session start times

1. Actual start time
2. Average start time
3. ☺ Start within the agreed tolerance
4. Downtime between sessions, including lunch

Example of statistical process control chart demonstrating improvement in both showcase theatres which was shared with the clinical and management teams.

1. Changes made to the session start-up process resulted in seven consecutive start times below the mean. The control limits and mean are recalculated to show the parameters of the new start-up process.
2. After the change the control limits are closer together showing less variation in the session start time.
3. The mean start time has reduced from 09.18 to 09.02

- each point represents the start time of a session
- Mean session start time
- (UCL) upper control limit
- (LCL) lower control limit



Example 4: staff engagement and use of data to reduce late starts

The team at King's developed an 'On time start' initiative

- They wanted to encourage staff to view the service they provided from a customer perspective – one example was to compare their own performance to that of the rail industry.
- As part of a wider vision for a 'hassle free' day teams made a commitment to be ready five minutes before every list.
- With their staff, they developed a set of principles that all the teams signed up to. The principles were:
  – we will hold ourselves and each other accountable
  – we will monitor and share our progress monthly through data and personal stories
  – we will learn from teams that do well – and identify where we need to improve.
- They communicated the commitment and principles widely and displayed them throughout the department to constantly remind their staff and help to embed the new way of working.

Example: poster from King's College Hospital used in the department to communicate the principles

Why are time starts important?

Did you know...

If you're a patient at King's, you currently have a 49% chance of your surgery starting on time.

Think about it. If you were waiting for a train, would you be happy with a 49% on-time record?

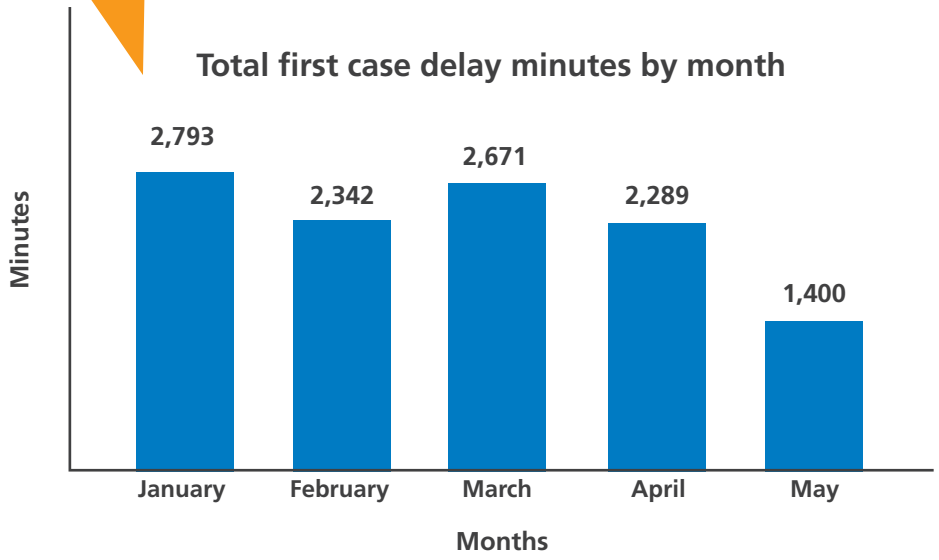
We asking staff to commit to be ready 5 minutes before the start of every list:

'We will hold ourselves and each other to account'
'We will monitor and share our progress monthly through data and personal stories'
'We will learn from teams that do well - and identify where need to improve'

To know more about this initiative and how you are doing please contact
Main Theatres, Odette Ferrao and for Day Surgery, Tim Hiles

- Qualitative and quantitative data was shared on a monthly basis to feedback to staff how they were doing and to further influence the change.
- The information was displayed within the department for all teams to see.
- Early results from the 'on time start' initiative showed very good progress.
- The next stage is to maintain the early momentum and to start to record and then resolve the glitches that regularly occur within the session start-up process that lead to late starts.

1,393 Reductions in Total Delay Minutes from January through May 2009



Plan – milestone checklist

Move on to **Do** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Ensured strong and visible leadership	
Created the team	
Communicated, engaged and raised awareness	
Gathered and reviewed relevant data	
Made sure you have good quality data	
Gained feedback from the team	
Recorded processes using photos and videos	
Understood how long individual start-up activities take	
Gathered information about issues and problems	
Mapped your current state	
Reviewed ideas that have worked elsewhere	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

5. Do

Once you have understood your current state and identified any issues and barriers within it, it is time to develop and implement your future state.

Identify and map your future state

By now you will have reviewed all the relevant information, mapped your current state, and gained a full understanding of the issues and problems you have identified around the session start-up process.

Now it's time to think about exactly what you want to change and how to make the improvements happen.

Remember that implementation works best when staff are involved and are encouraged to develop their own solutions. This will result in a shared goal that engages all members of the team.

Follow the steps for designing your new process using future state mapping.

Review your module aims

This is a good point to review your initial module aims, to make sure you remain focussed on achieving your goal.

It maybe that having gained a deep understanding of your current state, you may wish to revise your aims. If you do, remember to communicate this with the wider team and your reasons why.

Map the future state

Effective group facilitation is key to the success of this session. You will need a facilitator who is experienced in process mapping, has the skills to guide the team through the session and be able to challenge and draw out the best ideas from everyone in the team.

For more guidance about facilitation and working with groups see www.institute.nhs.uk/facilitation and Improvement leaders guide 1.3 Working with groups www.institute.nhs.uk/ilg

To map your future state:

- get everybody involved in session start-up together,
  - if this is not possible hold a number of small group sessions for each of session start-up processes
- invite representatives from the all areas involved in each process, such as ward staff
- give plenty of notice to ensure as many people can attend as possible
- send a detailed agenda so the team understand what they have been invited to and why their participation is important

The agenda should include:

- review of the module aims
- review of all the information collected to date including the current state map and the waste identified
- review of issues and frustrations identified to date and ideas for improvement
- further ideas generation
- future state mapping
- action planning and dates for future meetings.

Discuss how the various teams might work more effectively together in order to complete all of the tasks needed to get sessions up and running.

Tip: *Involving staff from different areas such as the ward will help to identify issues that theatre staff may be unaware of eg ward staff get patients ready in the order of the theatre list they have, if the order of the list is changed and not communicated to the ward the wrong patient will be prepared first and result in a delay.*

Map your future state together as a team. Agree the first step, and walk through the value adding activities of the process, and create your future state process map. There should be significantly less steps and issues than your current state map.

Are there key timings that are common across the teams during this set-up period?
How might these be used to provide some structure to the start-up process?

Use Process mapping, Toolkit, tool no.11 to support you with this event.

As a group, look for ideas or suggestions on how to improve the current process. All ideas no matter how big or small should be captured on a sticky note, and put on a flipchart. Encourage the team to be innovative with their suggestions. Tools to help you help staff think creatively can be found at
www.institute.nhs.uk/thinkingdifferently

Other useful tools to support this session include:

- Dot voting, (Toolkit, tool no.2)
- Module action planner, (Toolkit, tool no.13)
- 5 why analysis, (Toolkit, tool no.18)

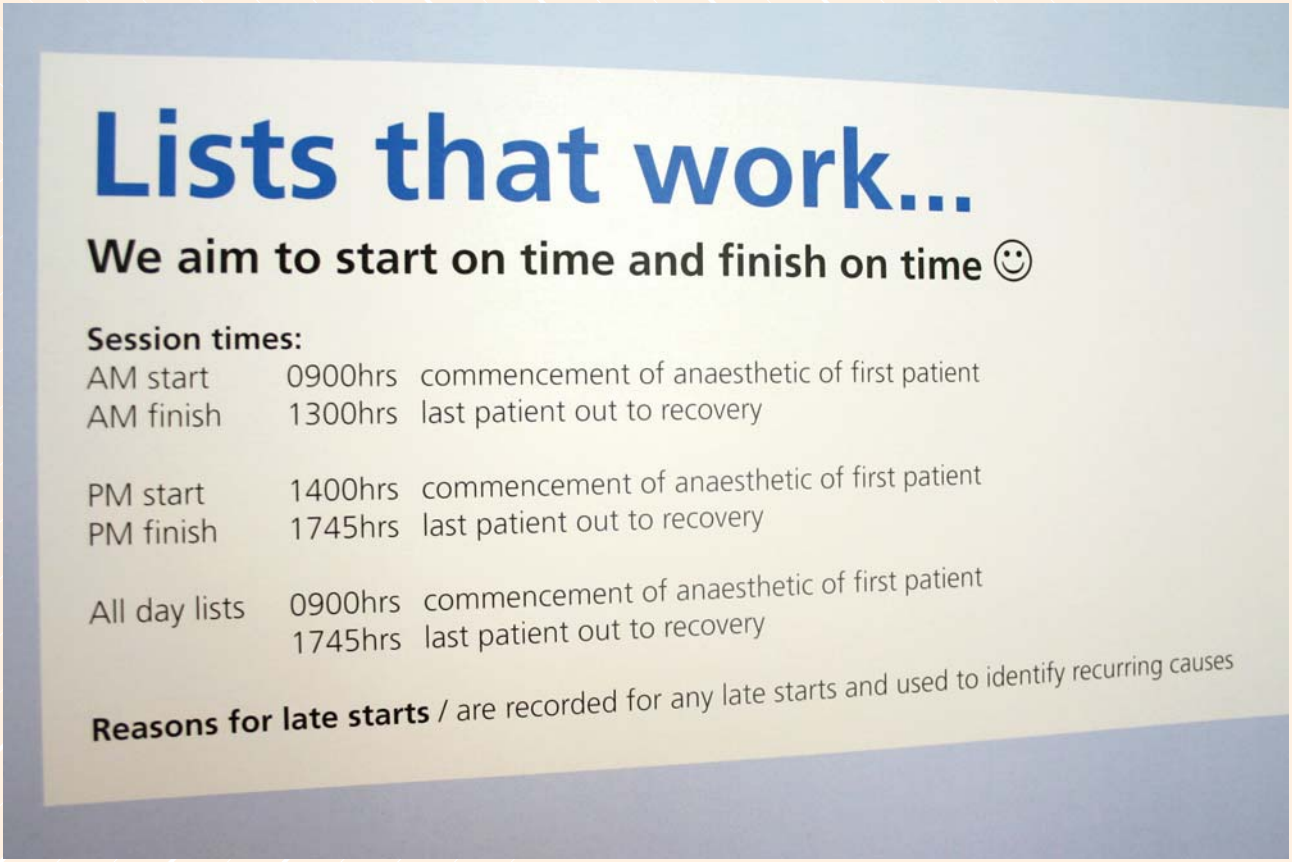
Tip: *The support and active involvement of clinicians is crucial, but busy surgeons and anaesthetists may be reluctant to engage with improvement work unless they understand what the potential advantages are.*

Agree and raise awareness of key definitions

All members of your team need to be clear about exactly what the definitions of start and finish times are. These vary between organisations and as many staff move between organisations during their careers, confusion can be more common than expected. Setting the standard also helps to set expectations of the team for a prompt start.

Once agreed, communicate the definitions widely across all of your teams.

Example: poster used to raise awareness of session start and finish times
A simple 'strap line' that captures and sets a standard and expectation



Mapping the future state timeline for several concurrent processes

It is useful to map backwards from a defined point such as the locally agreed start time. This will enable you to identify the key points and times where there are interdependencies between the concurrent processes being carried out by different teams.

This will also clarify the timeframes that individuals actually have available to carry out their pre-session processes. Teams can then further examine their own individual processes within the context of time available and the tasks that need to be carried out.

Each organisation will have identified individual issues and challenges that will define the direction and priorities for improvement.

On the following page is an example from a test site that mapped the higher level processes that run concurrently during start-up for the day. They looked at what the key stages were in each process that need to be achieved.

Example: timelines for concurrent processes

Heart of England NHS Foundation Trust

Patient Preparation Timeline									
Time	**0745hrs**	**0800hrs**	**0810hrs**	**0815hrs**	**0830hrs**	**0845hrs**	**0850hrs**	**0855hrs**	**0900hrs**
Tasks & activities	Patients start arriving to admission areas	1st patients on list prepared	1st patient on list seen by medical staff	Other patients seen by medical staff	1st patient sent for depending on location	Other patients being prepared	Checking patient into theatre	Signed in anaesthetic room	Anaesthetic commences 1st patient
Notes									
Surgeon & Anaesthetist									
Time	**0745hrs**	**0800hrs**	**0810hrs**	**0815hrs**	**0830hrs**	**0845hrs**	**0850hrs**	**0855hrs**	**0900hrs**
Tasks & activities	N/A	Locate patients & documentation	See 1st patient	Seeing rest of patients on the list		Doctors arrive in theatres	Pre session briefing *	Sign in (WHO 1)	Start of list - commencement of anaesthetic
Notes			let theatres know if any issues affect ability to send on time						
Theatre Team Set-up									
Time	**0745hrs**	**0800hrs**	**0810hrs**	**0815hrs**	**0830hrs**	**0845hrs**	**0850hrs**	**0855hrs**	**0900hrs**
Tasks & activities		Coordinator on duty. Check lists & staffing		Theatre teams start shift. Team start setting up theatres	Confirm all OK for 1st case 1st patient sent for by theatres by default unless message from doctors	Team leader confirms safety checks and all ready. Gather for briefing	Pre session briefing *	Sign in (WHO 1)	Start of list - commencement of anaesthetic
Notes									

***Refer to Team-working module for details of pre-session briefing**

'The session briefing is the natural starting point of the list. Everyone is there, so now we start on time more often. An efficient and effective session start-up period will have ensured that all aspects of the list are planned for and in place. Briefing then forms the team, creates a common purpose and confirms the details and plan for the list.'

James Clarke – consultant anaesthetist, Elective Orthopaedic Centre


3-0
POLYSORB
MONOCRYL
RESPECT

Reframing issues into enablers

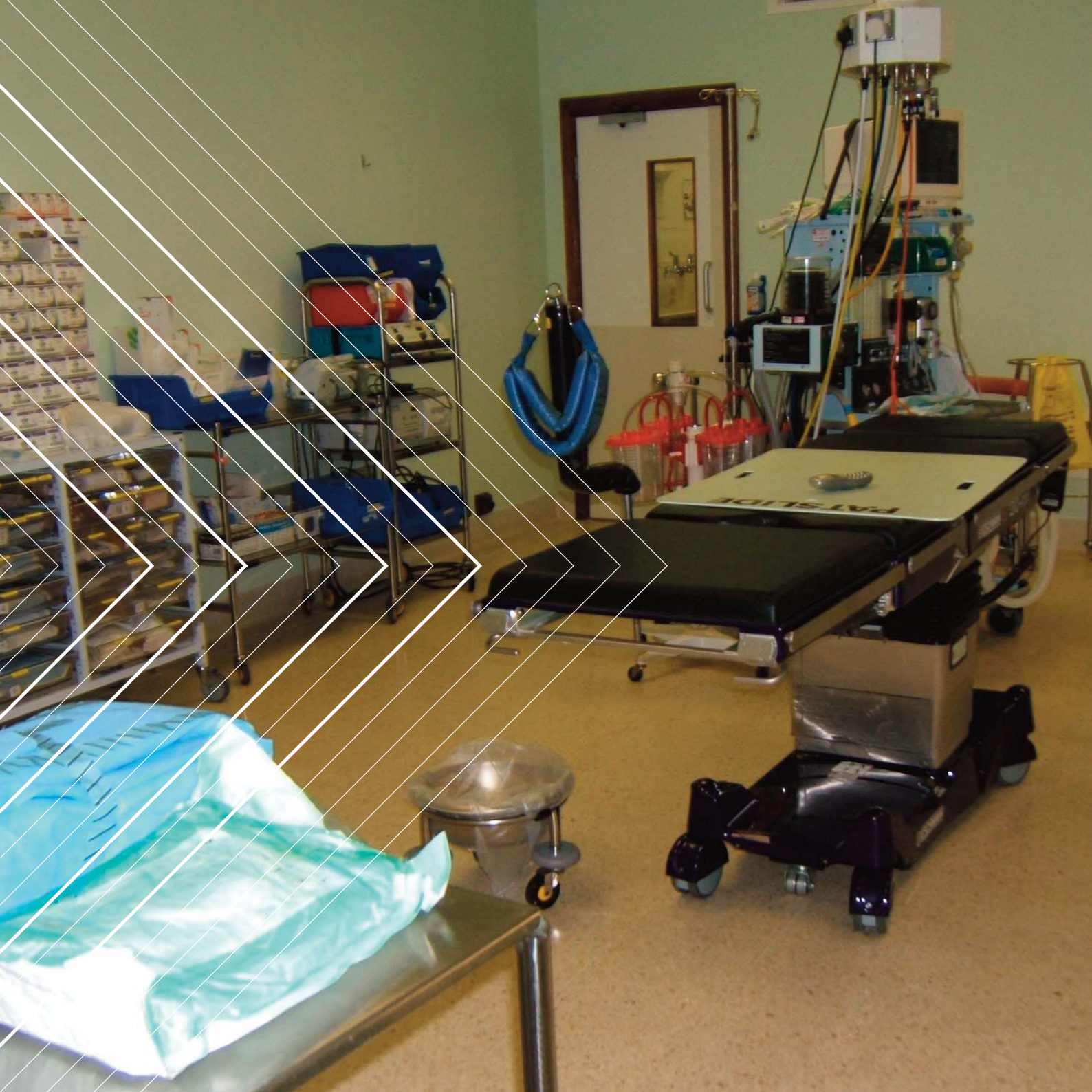
Review the issues and barriers that are preventing you from achieving the aims of the module. Don't forget to include the outputs from your original visioning workshop where you raised issues as well as your vision for a perfect list.

A simple group exercise can be to 'reframe' any negative feedback about difficulties in achieving an effective session start-up into positive statements, based around key themes that can be identified as areas for improvement. The aim of this is to get people to start thinking positively and about solutions rather than problems.

This exercise also helps to clarify some of the issues that may fall outside the scope of this particular module, or even the programme.

Example: re-framing your issues into key enablers for improvement

Issues and barriers	Enablers
Lack of purpose and motivation to start on time	A team that has a common purpose to achieve a safe and reliable set-up and to start on time
Poorly scheduled and planned lists Constant list order changes	A well planned operating list that does not require any changes in order
Poorly prepared patients – not fit for theatre, lack of appropriate investigations and preparation	Patients that are medically fit for the procedure; prepared, fasted, consented, correct site surgery checked, documentation available – and ready to go to theatre
Staffing problems – numbers and skills	The theatre team - appropriate skill mix and numbers – ready to go
Medical staff late or not scheduled for list	Surgeons and anaesthetists with required skills – booked and available
Poor team-work	Collaborative multidisciplinary team – solution focused and 'can do' attitude
Lack of effective communication	Communication: briefing, debriefing, interdepartmental communications
Poor coordination and management drive	A proactive and responsive theatre coordinator and theatre management team
Problems with availability and function of equipment	Equipment that is available and functioning correctly
Bed capacity problems – wards and critical care	Bed availability – correct speciality, correct level of care and available on time
Morning lists over-running, knock-on effect on lunch breaks and start of afternoon lists	Afternoon lists – morning session finished on time and a team that have had their break
Patient transport to theatres causing delays	Transport to theatre – timely collection, method planned – trolley, walk, chair, escort available



Agree and prioritise potential solutions

Your teams will have identified many issues and potential solutions. It will be necessary to prioritise which of these you should address and in what order.

Identify issues that are beyond the scope of this module

Some of the issues and barriers identified may be beyond the scope of the module or the influence of theatres. However, these issues still need to be taken forward to the appropriate area within your organisation, with a clear indication of the impact that the issue is having on your patients, or your theatre service.

Where possible provide the person who will be taking this forward with clear evidence of the problem, backed up with some form of data.

- Issues can be taken forward by the programme leader. There may be occasions where this needs to be escalated to the executive leader when other strategies have failed to find effective solutions.

- Some key potential improvements will fall within the scope of other modules within The Productive Operating Theatre such as Team-working, Scheduling, Patient Preparation, Consumables and Equipment or Operational Status at a Glance. Your programme lead will be able to link these into other module improvement work.

- Some potential improvements will also link in well with work that your organisation may be developing as part of The Productive Ward. This is an excellent opportunity to build a collaborative working relationship with another Productive programme.

Carry out a Cost / benefit analysis

Depending on the number of ideas which have been identified and are within the scope of this module, you may need to prioritise the ideas as well as the timing of testing.

To do this, carry out a Cost / benefit analysis (see Toolkit, tool no.12). This can help you to identify which ideas to implement and in what order, based on the cost it will take to implement and the potential benefit that may be gained. Low cost solutions with a high benefit provide a 'quick win', this is good to capture your staff's attention and generate enthusiasm.

Example of a Cost / benefit analysis

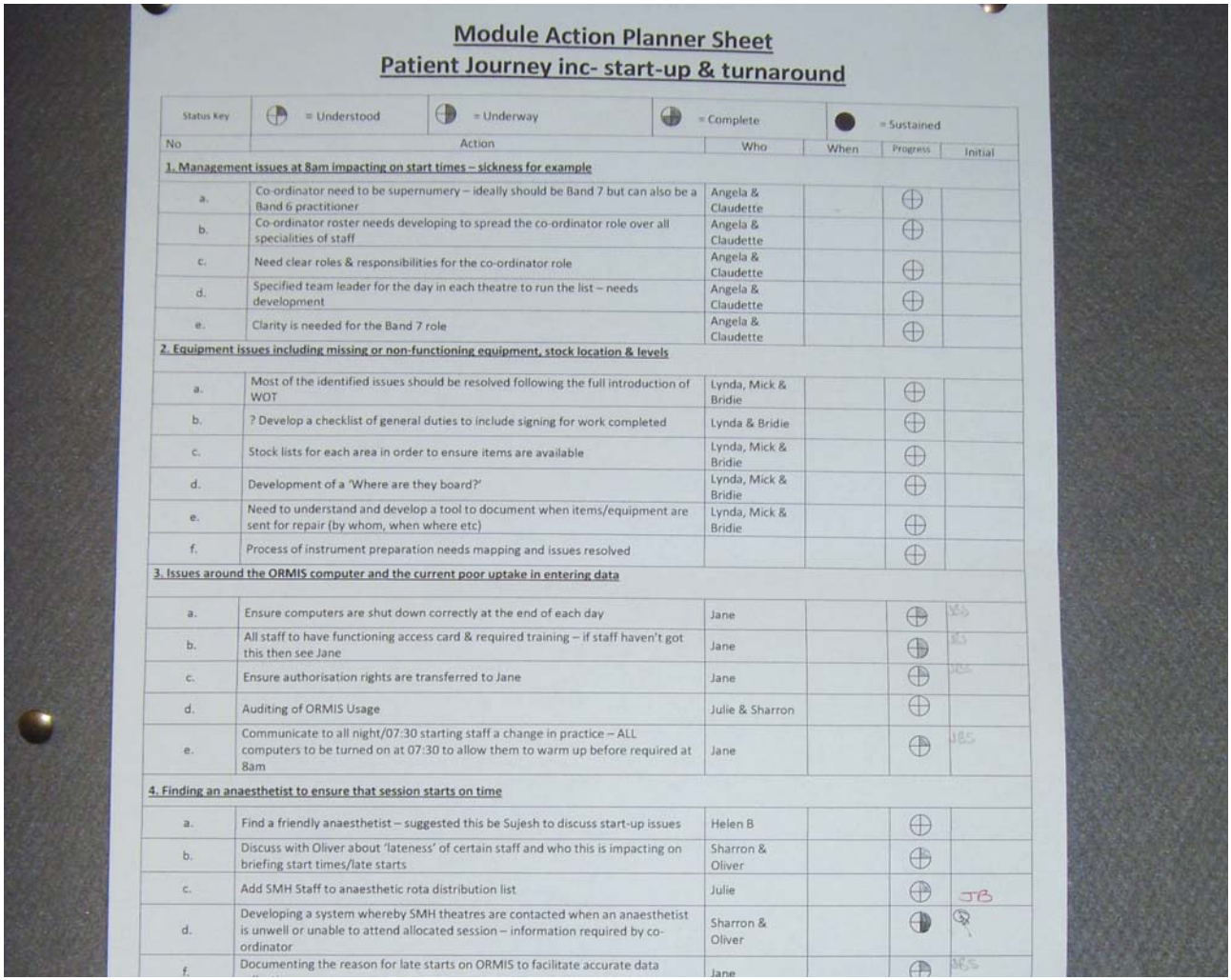
Cost / benefit

- **Low cost and high benefit** – just do it.
- **High cost and high benefit** – initiate hospital procurement process, a business case will usually be required.
- **Low cost and low benefit** – nice to have, but best to implement when other priorities have been taken care of.
- **High cost and low benefit** – log as a nice idea, but put to the bottom of the priority list for implementation.

Create an implementation plan

Once you have agreed and prioritised the changes that you want to test, develop an implementation plan. Use the Module action planner (see Toolkit, tool no.12) to organise, share and communicate the actions. The planner can then be used to monitor progress of your PDSA cycles.

For the Module action planner sheet see www.institute.nhs.uk/theatres_resources



Module Action Planner Sheet
Patient Journey inc- start-up & turnaround

Status Key	= Understood	= Underway	= Complete	= Sustained

No	Action	Who	When	Progress	Initial
1. Management issues at 8am impacting on start times – sickness for example					
a.	Co-ordinator need to be supernumery – ideally should be Band 7 but can also be a Band 6 practitioner	Angela & Claudette			
b.	Co-ordinator roster needs developing to spread the co-ordinator role over all specialities of staff	Angela & Claudette			
c.	Need clear roles & responsibilities for the co-ordinator role	Angela & Claudette			
d.	Specified team leader for the day in each theatre to run the list – needs development	Angela & Claudette			
e.	Clarity is needed for the Band 7 role	Angela & Claudette			
2. Equipment issues including missing or non-functioning equipment, stock location & levels					
a.	Most of the identified issues should be resolved following the full introduction of WOT	Lynda, Mick & Bridie			
b.	? Develop a checklist of general duties to include signing for work completed	Lynda & Bridie			
c.	Stock lists for each area in order to ensure items are available	Lynda, Mick & Bridie			
d.	Development of a 'Where are they board?'	Lynda, Mick & Bridie			
e.	Need to understand and develop a tool to document when items/equipment are sent for repair (by whom, when where etc)	Lynda, Mick & Bridie			
f.	Process of instrument preparation needs mapping and issues resolved				
3. Issues around the ORMIS computer and the current poor uptake in entering data					
a.	Ensure computers are shut down correctly at the end of each day	Jane			
b.	All staff to have functioning access card & required training – if staff haven't got this then see Jane	Jane			
c.	Ensure authorisation rights are transferred to Jane	Jane			
d.	Auditing of ORMIS Usage	Julie & Sharron			
e.	Communicate to all night/07:30 starting staff a change in practice – ALL computers to be turned on at 07:30 to allow them to warm up before required at 8am	Jane			
4. Finding an anaesthetist to ensure that session starts on time					
a.	Find a friendly anaesthetist – suggested this be Sujesh to discuss start-up issues	Helen B			
b.	Discuss with Oliver about 'lateness' of certain staff and who this is impacting on briefing start times/late starts	Sharron & Oliver			
c.	Add SMH Staff to anaesthetic rota distribution list	Julie			JB
d.	Developing a system whereby SMH theatres are contacted when an anaesthetist is unwell or unable to attend allocated session – information required by co-ordinator	Sharron & Oliver			
f.	Documenting the reason for late starts on ORMIS to facilitate accurate data	Jane			

Test the changes

Now that a future state and implementation plan has been agreed the next stage is to test the potential solutions.

It is likely that even the best ideas will require you to go through several Plan Do Study Act cycles, to enable you to modify and refine your ideas before your team and organisation are happy to scale-up solutions on a large scale.

Before you begin testing ensure that:

- the leadership and ownership of each change is clearly established
- everyone involved understands the purpose of the proposed changes
- you communicate the changes that are being tested to all stakeholders, including those who are not directly involved in the tests
- you have identified the data you will need to collect to see if the change is an improvement
- the data will be accurately and effectively collected
- you have an effective method to analyse and review your data
- staff are encouraged to comment and make suggestions about the changes
- you plan to identify and help solve any problems that may occur during implementation
- you set a specific date to start
- you set a defined study period – this should be long enough to demonstrate improvements or problems, but short enough to evaluate and make further changes if required
- you set dates for future meetings to assess the effects of the changes and refine the approach based on feedback.

Monitor progress

At the beginning of this module, as part of the second question, 'How will we know that a change is an improvement?' one of the first things you did was to identify and agree your measures for Session Start-up.

For each measure you would have completed a measures checklist to confirm:

- the measure definition
- how and who will collect the information
- how and who will analyse and present the information
- when and who will review the information this could be at the steering group, project team or theatre team meetings

(The measures checklist is available at www.institute.nhs.uk/theatres_resources in the Knowing How We Are Doing section.)

During the Plan phase you collected a considerable amount of information to help you understand the current session start-up process; this will have provided you with a baseline against which you can now monitor your progress as you begin to test your changes.

As you test your changes you will need to collect, analyse and review your data for each measure as described in Knowing How We Are Doing and as you outlined in your measures checklist.

It is likely that you will have to revisit some of your measures as you begin to collect, analyse and review your information and perhaps modify your measures, or the way you measure to make sure that you are getting the information you need in a timely and manageable way. Consider the following questions:

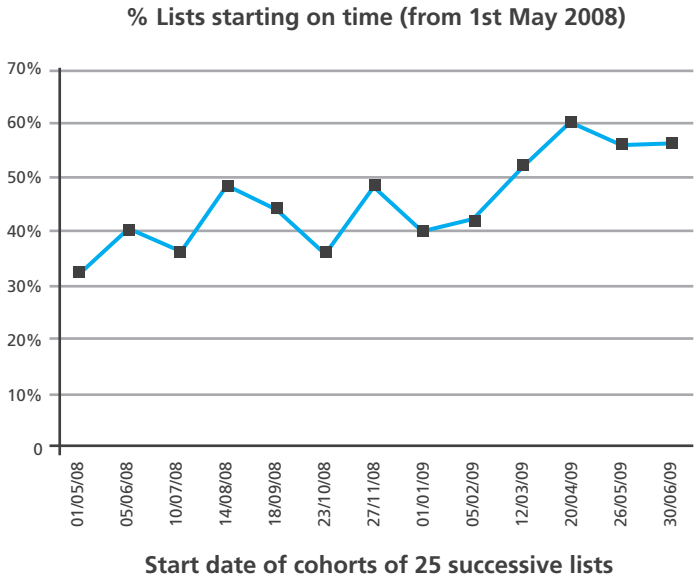
- is the data easy to collect?
- are the measures providing you with useful information?
- can the teams understand how the data is presented?
- is there other information you could collect?

Analysing and presenting your data

There are many ways that you can analyse and present your data, for more information about how to analyse your data and lots of examples of charts that have been used within The Productive Operating Theatre see the Measures supplement www.institute.nhs.uk/theatres_resources

Run charts are a good way of showing the effect the changes you are making are having. They show what is happening to a particular measure over time, and so can be used to see whether things are getting better or worse. They are also easy to create and simple to understand.

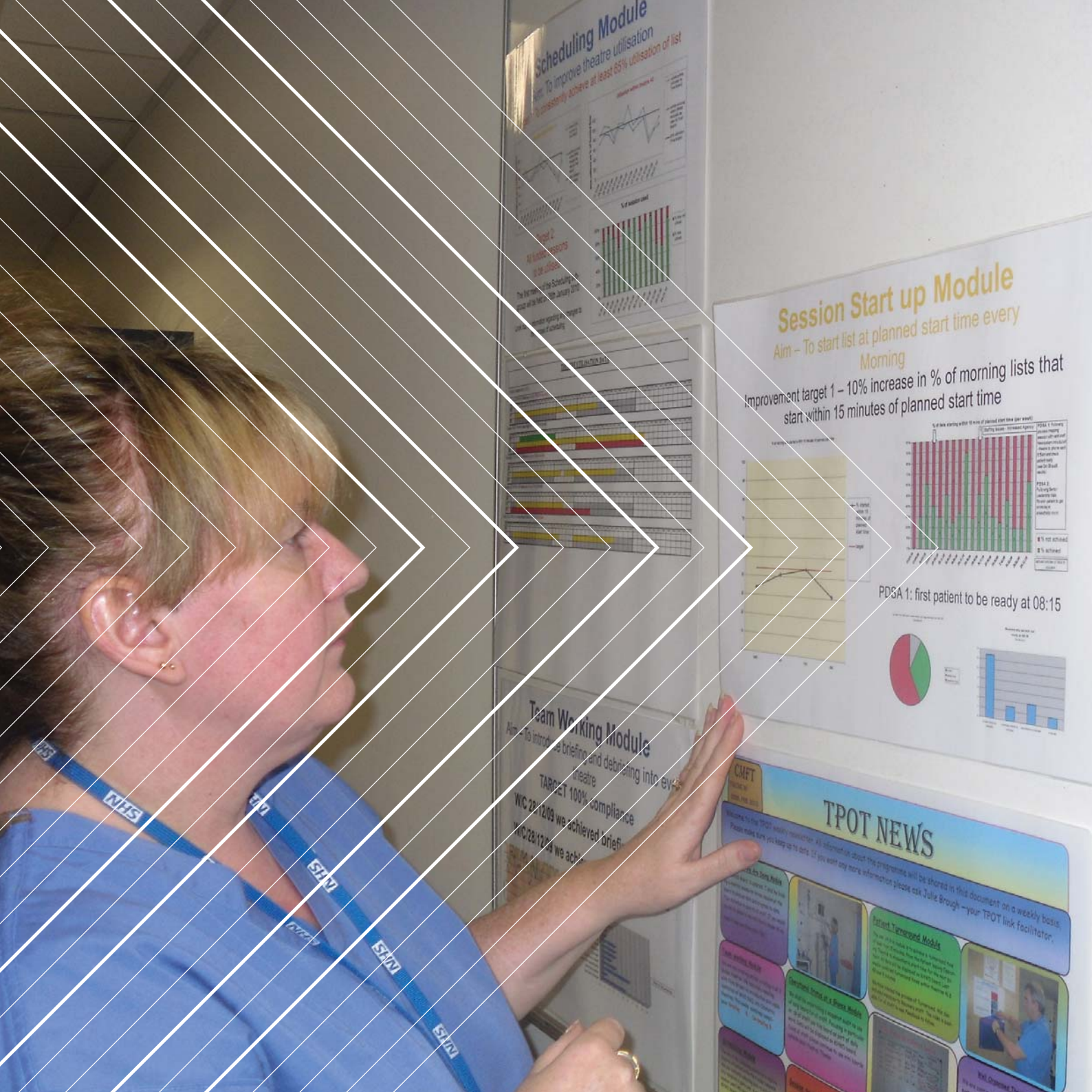
For example the run chart below shows the percentage of lists that start on time is increasing over time, you could also plot, the number of minutes that a session starts late or early day by day.



A more advanced way to present your information is through using Statistical Process Control (SPC) charts. For more information and a tool to create SPC charts see www.institute.nhs.uk/qualitytools

'Before displaying information on our Knowing How We Are Doing board, I always ask a member of the team if they understand what the data is telling them, if they do, then I put it up, if not I ask what is unclear and change it.'

Julie Brough – clinical link facilitator, The Productive Operating Theatre, Central Manchester University Hospitals NHS Foundation Trust


Scheduling Module
Session Start up Module
Aim – To start list at planned start time every Morning
Improvement target 1 – 10% increase in % of morning lists that start within 15 minutes of planned start time
PDSA 1: first patient to be ready at 08:15
Team Working Module
TPOT NEWS
NHS

Collect qualitative information

Feedback from the team carrying out the change is also important

- Gather feedback from the team whilst they are testing the potential solution – how are things going and are there any problems?
- Encourage suggestions – the team carrying out the work is likely to be a rich source of ideas and suggestions.

Review the information

Reviewing your measures is the most important part of the whole measurement process.

The purpose of measurement is to act upon the results. It is vital that you put time aside to review the measures as a team at a progress review meeting.

- Make time to regularly catch up with the team involved in implementing the change so they can discuss progress and issues, and make suggestions for further improvements.
- Use the meeting as an opportunity to review your implementation plan to make sure all actions are on track.
- Monitor initial data for signs of improvement – share any evidence with the team to encourage them to persevere.

What is a progress review meeting?

What is it?	• a routine meeting to: – discuss progress against goals – plan actions against issues
Why do it?	• everyone has a stake in how theatres perform • promotes improved and consistent communication between theatre staff • promotes cohesive team-work to achieve theatre objectives • encourages ownership and responsibility for problems and solutions
Suggested agenda*	• welcome / update on actions from previous meeting • review charts and discuss changes for signs of improvement – congratulate on good performance and move quickly to areas where improvement is required • review your implementation plan • agree actions required / update on actions from previous meeting • assign new actions and deadline • confirm next scheduled meeting

* For detailed guidance see Knowing How We Are Doing, Step 6 – Review measures page 75

Questions to ask

By reviewing the measures you will learn about how your theatre team is performing. You will analyse the information and develop conclusions about whether you are measuring the right things. You will begin to understand the reasons behind what the information is telling you and identify the actions you need to take.

The following questions can help guide your discussions at your progress review meeting.

What outcomes did we expect (our aim)?	eg to start lists at planned start time every morning
Do the results indicate we are achieving those outcomes?	eg **actual** start times match the **planned** start time
Are we confident we have made the correct conclusion?	eg if start times are delayed, do we know the real reasons why?
Do the results indicate that we should be doing something else?	eg if the start times are consistently delayed for the same reason, focus on that area in your next round of improvement cycles
Are the measures useful?	eg you may also need to ask whether we have measured for long enough to draw conclusions
Would some other measures tell us more?	eg time a particular start-up process

Remember to communicate progress to the wider team through your Knowing How We Are Doing board and your organisation's newsletters.

Support the team through the changes

The teams implementing the changes will require:

- strong support and commitment from the programme leader and management team
- good clinical engagement
- open and clear communication about the changes and the impact they are having (positive and negative)
- time to dedicate to the module and attend the progress meetings.

Managing the challenges of implementation

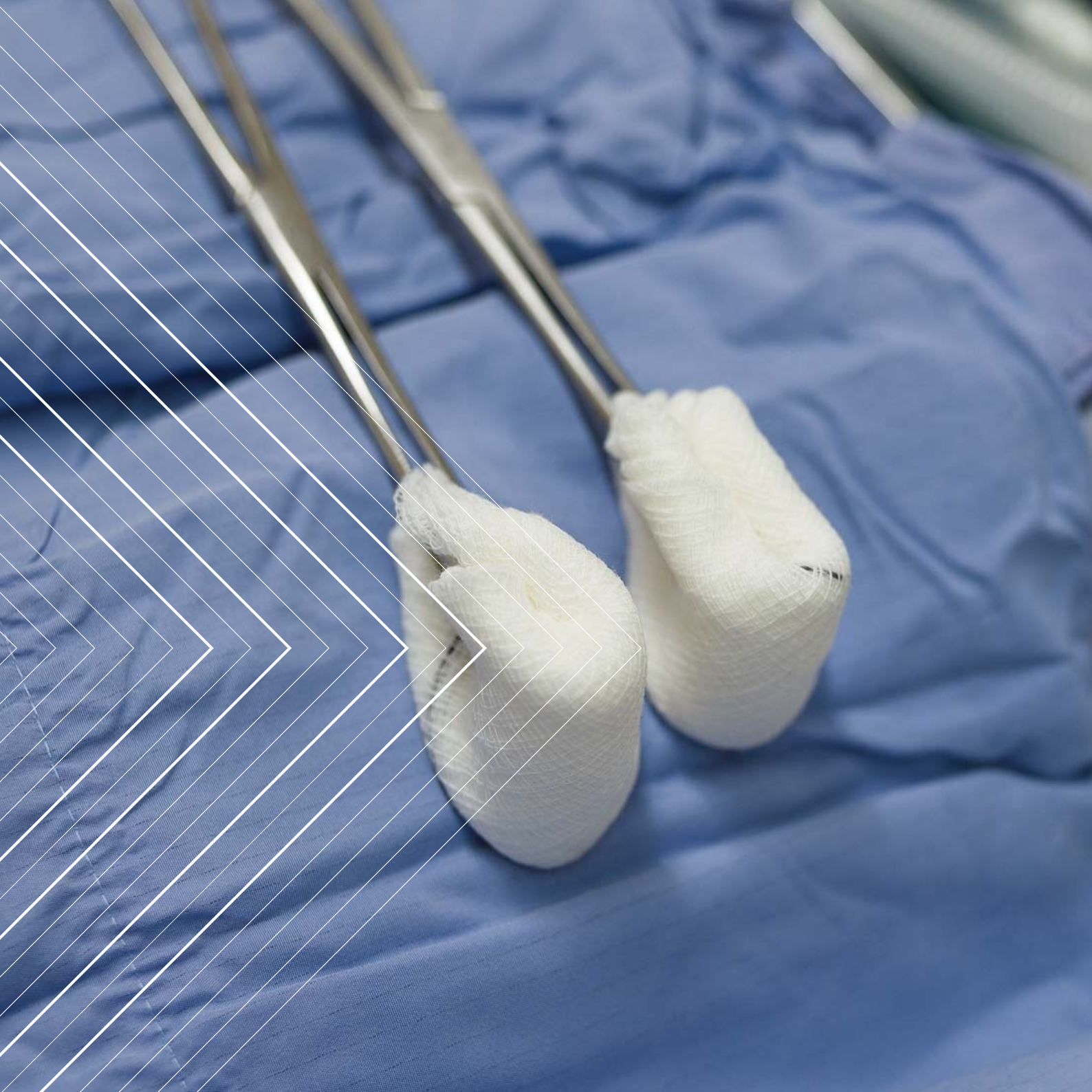
Depending on the nature and scope of the solutions that you are testing, you may come up against challenges when implementing the change. For example:

- resistance to the change
- lack of resources – staff being released to carry out the changes or funding for equipment or structural changes required.

If you come across any issues share them with your programme leader or service improvement leader who will be able to work with you to find strategies to overcome them.

For resources that may be of use to you visit www.institute.nhs.uk/qualitytools and see the tools:

- resistance – addressing uncertainty
- resistance – understanding it
- resistance – working with it.



Do – milestone checklist

Move on to **Study** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Reviewed your module aims	
Mapped future state	
Agreed and raised awareness of key definitions	
Agreed and prioritised potential solutions	
Carried out a cost / benefit analysis	
Created an implementation plan	
Tested the changes	
Monitored the progress of the change	
Supported the team in their new way of working	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

6. Study

Implementing improvements will take many Plan Do Study Act cycles. It is important to keep track of your measures for success so that you can assess the impact of changes soon after you make them and know if the changes you have made are improvements.

Collect, analyse and review feedback and data

During the Study phase, your team will need to reflect on how successful the changes they have implemented have been, and whether those changes are in fact improvements. This should occur after the original test period has been completed.

Use the three questions from the model for improvement as a framework to focus your thinking:

- what were we trying to accomplish?
- how do we know that the change was an improvement?
- what changes did we make that resulted in an improvement?

Throughout the test phase you will have been reviewing your changes regularly with your team at progress review meetings. The Study phase marks the completion of your defined test of change, it is at this point you will need to review the impact of the change through gathering the relevant information.

Collect feedback from your teams

What impact have the changes had on the staff groups involved – theatre teams, surgeons, anaesthetists, ward staff and managers?

- Are the changes having a positive or negative impact on them? Pay particular attention to any negative feedback
- Do they have suggestions on how the process can be improved further?
- Collect stories and quotes to provide the **qualitative** perspective of the change.

There are many ways to collect qualitative feedback from your teams and you will have already used some or all of them, use the most appropriate method depending on your local circumstances and scale of the change:

- group sessions (Toolkit, tool no.1 Meetings)
- one to one discussions (Toolkit, tool no.7 Interviews)
- flip charts in communal areas inviting comments
- questionnaires which can provide both qualitative and quantitative information (see www.institute.nhs.uk/qualitytools Patient perceptions and Staff perceptions)

Group sessions are particularly good as they provide the opportunity for discussion and to gather views from different perspectives.

Collect data

As you have tested your changes you should have continued to collect, analyse and review your key measures to show the impact they have had from a **quantitative** perspective. You will have been doing this at your regular **progress review sessions**.

Assess the impact the changes have had on your key measures, for example:

- has there been an improvement in start time?
  – overall, by theatre, by session
- has there been an improvement in over-runs?
- has there been a reduction in glitches?

For more information on how to analyse and interpret your data see Measures Supplement
www.institute.nhs.uk/theatres_resources

Assessing the impact on your key measures

As you reach the end of the test phase, you should review your achievements against your original aims. Use the following questions to guide your discussion:

- what was your aim?
- do the results indicate you've achieved that aim?
- what conclusions can you draw?
- is the team confident they've made the correct conclusions?
- what are the views of the team and their perceptions of the change?
- what would they like to see changed or improved?
- do the results indicate they should be doing something else?
- what next? – are you ready to move onto the Act phase?

Communicate progress

- Use your Knowing How We Are Doing board to communicate and share progress with your theatre department. Show progress on key measures, include quotes, comments and stories.
- Include the headline results in your Productive Operating Theatre newsletter to share progress across the organisation.
- Discuss results and progress in your weekly team meetings, audit mornings, and brief and debrief sessions. Ensure all staff are informed.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Medical Ltd

Study – milestone checklist

Move on to **Act** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Collected, analysed and reviewed feedback and data	
Assessed the impact on your key measures	
Communicated progress	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

7. Act

Once you have successfully developed and tested your improvements, you will need to decide whether to adopt, adapt or abandon the changes, ensure improvements are sustained and plan for scale-up across the organisation.

Agree whether to adopt, adapt or abandon the changes

Once your team has undertaken the data analysis and reviewed the feedback, they will need to decide whether to:

- **adopt** the change if it has been a success, work with a steering group to plan roll-out to other areas
- **adapt** the process in some way to improve it further. Perhaps the change has not achieved the desired outcome, by adjusting or modifying it slightly it may be more successful. If changes are decided, you need a further period of study to understand whether the adaptation(s) have worked or not
- **abandon** the change if it was not successful. Remember, many of the changes you propose may not be successful: do not consider this as a failure but as an opportunity for further improvement. In this situation carefully analyse as a group what you have learned and what you would do differently next time. Are there things you have learned that are useful to the wider group working on other parts of the programme? If so share them.

Crucially, before the team decide to adapt or abandon a change, you need to understand why the change has not been as successful as you hoped. For example there may be poor clinical engagement, lack of time allocated to support the change or missing data. Use 5 Why analysis (Toolkit, tool no.18).

Tip: *The model for improvement encourages the testing of lots of ideas through small cycles of change. It is expected that many changes will need to be adapted before they are adopted. It is also expected that changes will be abandoned which is why you should first test ideas on a small scale in a supportive environment.*

Celebrate and share successes

Display successes and feed back to everyone in the team. Be sure to credit the team with their effort. Share your improvements and learning within the department, across your organisation and externally so others can learn from your work through:

- wall displays
- emails
- newsletters
- weekly review meetings
- audit mornings
- presentation and sharing events
- submit your case studies of improvement to share nationally at www.institute.nhs.uk/theatres

As you communicate your improvements to the team consider what is important to different groups of staff.

Continue to monitor and review

- It is important that you continue to collect, analyse and review your key measures, to encourage sustainability in both the original area of implementation and then any new areas that you roll-out to.
- Once you are satisfied that the change is an improvement and is being sustained, you may reconsider the frequency and the number of measures that you collect, analyse and review.
- As soon as you take your 'eye off the ball' there is the possibility that changes will not be sustained so continue to monitor high level key measures.

Sustain the changes

As much effort, if not more, needs to go into the sustainability of a change as that required during the planning and starting of it. Sustaining new ways of working is always a challenge. The NHS Institute sustainability model identifies ten factors that are key to the sustainability of any change; they are explained in the table below. These should be considered before you plan to scale-up your improvements across the organisation.

	Factor	Things to consider
Staff	Clinical leadership	• This module in particular will need a high level of clinical leadership to influence and support the improvements
	Senior leadership	• Senior theatre staff and managers supporting and driving the improvements
	Training and involvement	• Provide training on the changes for those that are affected by it so that they understand any new systems and processes • Provide the information and develop a framework of review and support that will encourage active development of good practice
	Staff behaviours	• Teams will only own their own performance if they are empowered to do so, continue to involve staff in developing the changes further. Use your champions to influence their colleagues
Organisation	Fit with organisational goals and culture	• Show how the change fits with your Productive Operating Theatre vision and the wider organisation's strategy
	Infrastructure	• Formally incorporate any new roles and responsibilities that people have as a result of the changes into their job plans • Develop policies that embed the changes
Process	Benefits	• Discuss with staff involved what the benefits of the new way of working are for them
	Credibility of evidence	• Share the qualitative and quantitative benefits that you have collected through the testing cycles to engage colleagues during scale-up
	Monitoring progress	• Continue to monitor the progress of the changes so that teams can see the impact of their efforts
	Adaptability	• Consider how the change will adapt to a different theatre team, speciality or site – do modifications need to be made?

To identify if there are factors you need to focus on to increase the sustainability of your improvements, complete the sustainability model which is available at www.institute.nhs.uk/sustainability

Plan for scale-up across all theatres

Adoption of your new session start-up processes will occur naturally to some extent as staff see and understand what you've achieved and the benefits its delivered. However scaling-up improvement across the whole organisation presents a significant challenge you therefore need to take into account various important considerations when planning for this. The steering group or the programme team may have clear thoughts on where to, and how to migrate the improvements across all theatres.

Importantly, scale-up across other teams will involve using the same improvement methodology and approach, but successful implementation will rely on a careful balance between standardisation and flexibility to avoid duplication, confusion and frustration.

Standardisation – to what extent should the improvements created in the showcase area be scaled-up across the whole recovery unit or theatre department? For example, once a standard operating procedure for the pre-session anaesthetic safety check has been developed and tested that meets all the required national guidelines and best practice, it would seem both practical and effective to use this across all areas.

Flexibility – to what extent should the improvements created be developed by the individual teams as they work through the modules? The showcase teams in particular need to be open to the prospect of further modification of the documents or tools they created. For example the times allowed for surgeon and anaesthetist preoperative review will vary depending on the numbers of patients on the list.

However good you think your new processes are, do not be tempted to send out an instruction to all staff to implement them. Experience has shown that, at best, they will reluctantly carry it out until you are no longer watching. At worst, they will simply refuse. Staff have to be won over by engaging them, showing them the evidence that it works (qualitative and quantitative) and involving them in modifying the process to be fit for purpose in their particular clinical context. This takes time and perseverance.

Key considerations

There are many considerations to take in account before embarking on your scale-up plan. The degree of success you achieve will depend largely on:

executive commitment and support for the programme

sequencing – which specialties will you scale-up to and in what order, in what time frame?

coverage and completeness – think about how you will plan for and monitor the extent to which modules are being implemented across each area within your organisation and the extent to which each modules aims have been achieved.

clinical engagement and the degree to which your clinical champions can encourage and influence clinical colleagues across theatres

data and information analysis is crucial to understanding your baseline position, and also what impact, or return on investment the programme is achieving for the organisation

staff availability to test and implement change is difficulty during the initial phase involving just one speciality or showcase theatre. This becomes an even greater challenge when planning for scale-up across the whole theatre suite.

key roles in the programme such as programme leader ensure consistency and pace throughout the programme. Insufficient time allocation, vacancies or inexperience can only add delays, lack of continuity, or at worse collapse of the programme.

governance structures provide a vital framework for any improvement project. As your programme progresses through the modules and develops from showcase theatre across the entire theatre suite, so the communication and reporting mechanisms will need to evolve to ensure continued rigour and focus on achieving the programme aims.

For up to date information, guidance and examples of how the programme is being scaled-up see www.institute.nhs.uk/theatres

Don’t stop improving!

Just because you have decided to adopt an improvement does not mean that the work is complete.

Your new way of working with the improvements embedded now becomes your current state. Continue to look for the opportunities to improve it further. It is likely that as you roll-out and engage more teams, they will come up with more ideas of how the changes can be refined and improved further, or adapted to meet their particular needs. It is important to continue to provide opportunities for your wider teams to be able to influence and develop the new ways of working.

Continue to collect, analyse and review your data, new issues may emerge over time which will need to be addressed.

By doing this you will be creating a culture of continuous improvement within your department where improvement is seen as an integral part of the working day, not an additional activity. Furthermore, your teams will have the knowledge, skills and empowerment to lead this process themselves – the ultimate aim of The Productive Operating Theatre.

Act – milestone checklist

Move on to your next PDSA cycle only if you have completed **all** of the items on this checklist

Checklist	Completed?
Agreed which changes have been successful and should be adopted	
Agreed which changes need to be adapted and decide how they will be taken through another testing cycle	
Agreed which changes should be abandoned	
Celebrated and shared successes	
Agreed how you will continue to monitor your measures	
Completed the sustainability model to identify any factors that may need further work to increase sustainability	
Developed a scale-up plan for changes that will be adopted	
Identified the next area for improvement	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

8. Learning objectives complete?

Learning objectives were set at the beginning of this module. Test how successfully these objectives have been met by discussing your Session Start-up 'journey' with your team and asking them the questions in the table on the following page.

The results of this assessment are for use in improving the facilitation of this module and are not a reflection of staff aptitude or performance. The questions are broad and the responses will relate to the experience at your organisation. Some suggested answers have been given, if the responses from your team broadly fit with the suggested answers, then the learning objectives have been met.

For the objectives that have only been partly met, think about how you can change the way you approach the module next time.

Question	Possible answers
Why is a safe, reliable and prompt start-up important?	• Sets the momentum for the whole day • Reduces the chance of error • Meets the expectations of the patients and staff
What are the financial implications of poor use of operating time?	• Every minute wasted costs approximately £20, excluding the cost of a surgeon and anaesthetist. This resource could be used elsewhere within the department
What is the impact on patients, staff and the organisation of a late start?	• Increased anxiety for patients and the possibility that patients may be cancelled • Additional pressure on the staff to catch up the time which could result in error or increased likelihood that the list will over-run • Inefficient use of an expensive resource
Discuss the processes involved in session start-up and what happens within each of them?	• Patient admission and preparation • Surgeon and anaesthetist pre-operative review and preparation of patients • Theatre set-up
How can theatre staff influence a good quality session start?	• By taking personal responsibility for ensuring a safe, reliable and effective start to all operating sessions • By being solution focused and identifying opportunities for improvement • By adhering to agreed processes
How can you use measurement in improving start of sessions?	• By showing the impact of the changes we make • To make use of the data to understand the performance of each area and to work with the team to improve performance

Question	Possible answers
Discuss the advantages of standardised work and clear roles and responsibilities	• Everybody understands what is expected of themselves and of others • Eliminates confusion • Builds reliability into the system
Why is leadership at all levels critical to ensuring efficient start-up?	• To articulate the importance of an effective start up and to monitor, support and encourage good performance • To make sure the whole team are aware of their responsibility to be making best use of the resources that tax payers fund • To encourage and support all staff to work to the standards developed for safe and effective care by the organisation
What skills have you developed during this module?	• You need strong clinical and managerial support and leadership to overcome any potential barriers that may occur both within and beyond the scope of the programme. • Understanding the PDSA cycle and how ideas can be tested using small cycles of change • Understanding and using data for improvement • How to engage the wider team and use their knowledge and ideas to improve processes • Empowerment to be able to overcome barriers and change the system in a structured way
How will you continue to monitor and improve in the future?	• Continuing to monitor key measures • If improvements are not sustained identify why and revisit the barriers • Continue to look for further ways of improving the processes in terms of safety and reliability, patient and staff experience and value and efficiency

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